

**Lucent Technologies**  
Bell Labs Innovations



**DACS II**  
**Release 7.0.3 PDS**  
**Command and Message Manual**

Addendum — Volume I

365-353-052REV  
Issue 1, Rev. 1  
August 1997

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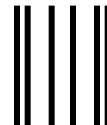
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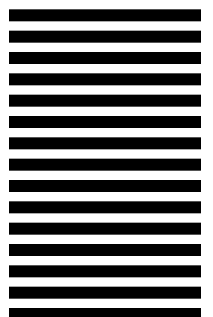
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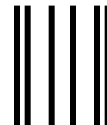
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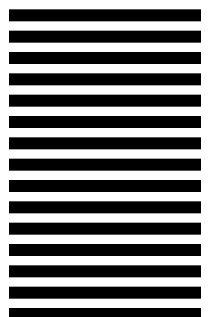
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## About This Document

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### Purpose

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The *DACS II Release 7.0 Command and Message Manual* describes the input commands and output messages of Release 7.0 of the Digital Access and Cross-Connect System II (DACS II). In addition, it provides full support for previous product releases.

 **NOTE:**

Those customers using this manual with Releases 3 through 6.1 software should be aware that all features of a particular message shown for Release 7.0 may or may not apply to previous releases.

This manual consists of three volumes as follows:

- **Volume I** - This volume contains general information about the document, a detailed introduction that defines DACS II messages, relates how to communicate with DACS II, introduces the administrative links, and discusses in detail NPC addressing, on-line help feature, system configuration and features a listing of related documentation and a glossary. Message listings in this volume include alphabetical and numerical, summary list of input commands and a list of autonomous messages. A comprehensive presentation of input commands and output messages (ABT through DGN) concludes this volume.
- **Volume II and III** - These two volumes contain input commands and output messages in the following order:
  - **Volume II** - DGRTH through SW
  - **Volume III** - TABS through UTL

---

## **Release 7.0.3 Addendum**

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The *DACS II Release 7.0.3 Command and Message Manual Addendum* consists of the following list of items to be inserted or replaced in your *DACS II Release 7.0 Command and Message Manual*:

- Updated manual Table of Contents for each volume
- Updated "About this Document" section for each volume
- Updated "Alphabetic Message List" (Chapter 2)
- Updated "Numeric Message List" (Chapter 3)
- Updated "Summary of Input Commands" (Chapter 4)
- New section, "Release 7.0.3 Addendum," consisting of updated and new commands applicable to Release 7.0.3.
- Updated manual index for each volume

The instructional page enclosed with the Addendum will explain how to incorporate these new items into the Release 7.0 documentation.

## **Intended Audiences**

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This manual is a catalog of messages intended for reference by a technician or craftperson who needs additional details about a message. It provides the user with supplemental information for the Digital Access and Cross-Connect System II (DACS II) that is programmed in the Program Documentation Standards (PDS) language. An example of a user is someone performing a task from an operation and maintenance manual who needs the definition of a specific keyword to complete the task.

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## About This Manual

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## About This Manual

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## About This Manual

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### Foreword

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This manual contains commands and messages for Digital Access and Cross-Connect System II (DACS II) software Release 7.0

### Who Should Use This Manual

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This manual is a catalog of messages intended for reference by a technician or craftsperson who needs additional details about a message. It provides the user with supplemental information for the DACS II that is programmed in the Program Documentation Standards (PDS) language. An example of a user is someone performing a task from an operation and maintenance manual who needs the definition of a specific keyword to complete the task.

### How To Use This Manual

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The user refers to a particular message via the message number or the action verb. The messages are arranged in alphabetical order by action verb; for example, add, audit, broadcast, change, etc. A numerical list, an alphabetical list, and a summary of input commands list provide cross referencing of messages and should help in locating a particular message.

A *message* is a communication between a user\* and DACS II. Input messages, or *commands*, are sent by a user to a DACS II. Output messages are originated by a DACS II and sent to the user.

---

\* A *user* can be a person operating a terminal connected to a DACS II or an Operations System (OS), such as TIRKS† system, SARTS, etc.

† TIRKS is a registered trademark of Bell Communications Research, Inc.



## **How the Manual Is Organized**

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This manual consists of three volumes as follows:

### *Volume I Contents*

- Introduction
  - About This Manual
  - DACS II Messages
  - Communicating With DACS II
  - DACS II Administrative Links
  - NPC Addressing
  - On-Line Help Feature
  - System Configuration
  - Documentation Support
  - Glossary
- Message Lists
  - Alphabetical List of Messages
  - Numerical List of Messages
  - Summary of Input Commands
  - List of Autonomous Messages

- Messages (ABT through DGN).

### *Volume II Contents*

- Messages (DGRTN through SW).

### *Volume III Contents*

- Messages (TABS through UTL).

## **DACS II Messages**

---

In this manual, DACS II messages are arranged in alphabetical order with the input command preceding the output message(s) associated with that command. Table 1, following the "Output Message Format" section, groups the messages according to functional category, message number, verb, and keyword. The inexperienced technician or craftsman should find this table helpful in locating a particular message, group of messages, verb, or keyword.

## How the Messages In This Manual Are Formatted

---

Each message is presented in actual input command format with accompanying explanations of parameters. Additionally, all responses to the input command, such as the completion, the denial, and any autonomous messages generated from the input or that are activated by the machine, are shown.

## Understanding Message Numbering

---

Messages are grouped according to verbs and keywords and are indexed for reference by a *message number*.

**IMPORTANT:** In the PDS language, the message number is used for organization and reference and does not appear in an actual message.

Message numbers have the following format:

|                |                                                                                              |
|----------------|----------------------------------------------------------------------------------------------|
| I . mmmmn      | Input command                                                                                |
| O . mmmmn      | Output message reporting a successful or conditional completion (COMPL) of the input command |
| O . mmmmn . pp | Output message reporting a denial (DNY) of the input command.                                |

Input commands are prefixed by an I; output messages are prefixed by an O. All messages related to each other have the same mmmm digits. An input command may have more than one completion output message. In this case, the last digit, n, indicates the particular completion message. Denial output messages are referenced by the additional digits pp.

For example, consider the monitor test access group of messages (mmm = 2100). Below is a replica of the input command followed by the possible output messages for this group:

```
I.21001    TTST:FRM xy,SEQ ww:MON[, TO ghijjj], TP kk!  
O.21001    ::TTST MON TP COMPL  
O.21001.01 ::TTST TP DNY  
O.21001.02 ::TTST MON TP DNY  
O.21001.03 ::TTST MON TP ASSGN DNY  
O.21001.04 ::TTST MON TP DNY
```

## **Usage of Uppercase and Lowercase Characters**

---

In the command and message formats, uppercase and lowercase letters distinguish between information that is constant (uppercase) and information that is variable (lowercase). Any character written in uppercase appears on the output device exactly as written. A variable represented by lowercase letters will be replaced on the printout or screen by a value listed under the EXPLANATION OF PARAMETERS for that particular variable.

## **Representation of Lines Longer Than the Page Width**

---

Many message lines in this document exceed the width of the margins of the page on which they are printed. Consequently, a way to present the message on more than one line while maintaining an accurate representation of the message's parameter fields and the character spacing between them has been devised. The backslash character is used in both input and output message representations to mark the point in the message text where a single line has been truncated and continued onto another line. This is consistent with the present use of the backslash character on input to enter a command whose length exceeds 80 characters. The user can easily construct the single-line representation because the backslash marks the extent of any blank characters in the message.

Rather than using the backslash convention discussed above, some utility (UTL) output messages are printed in a reduced type font because of their volume.

## **Delimiters**

---

Delimiters are used to enclose a field in a message:

- [ ] Brackets indicate an optional field, one which may or may not be used in the input command or appear in the output message.
- { } Braces indicate a field containing alternate choices. For input commands, the user must select one of the choices. In output messages, braces indicate that only one of the fields within the braces will appear.
- < > The less than and greater than symbols enclose an abbreviation representing variable length information. These delimiters are never used in actual DACS II input commands or output messages but are used only in describing the message format in this manual.
- ( ) Parentheses **are** part of the message text and must be entered where shown.

---

## **Message Layout and Heading Definitions**

---

The layout or skeleton for a message in this manual contains the following major headings:

**INPUT COMMAND FORMAT**

Nonhierarchical Format

Hierarchical Format

**EXPLANATION OF COMMAND**

**EXPLANATION OF PARAMETERS**

**COMPLETION MESSAGE**

Nonhierarchical Format

Hierarchical Format

**DENIAL MESSAGE (Not applicable to every message)**

Nonhierarchical Format

Hierarchical Format

**AUTONOMOUS MESSAGES (Not applicable to every message)**

Nonhierarchical Format

Hierarchical Format.

*INPUT COMMAND FORMAT* shows the command exactly as it appears when entered at the terminal. An exception is that some input commands are too long to be displayed on a single line; therefore, these messages are presented on multiple lines. Both the nonhierarchical and hierarchical NPC numbering formats are shown (refer to the "NPC Addressing" section).

*EXPLANATION OF COMMAND* explains the input command in general terms.

*EXPLANATION OF PARAMETERS* explains keywords and variables in detail, such as the specific entity, condition code, etc., for that command. The uppercase letters denote keywords and the lowercase letters denote variables.

*COMPLETION MESSAGE* is the normal response to the input command and indicates the successful completion of the command or the task requested by the command.

*DENIAL MESSAGE* indicates the input command has been denied and will not be executed. The denial message includes an error code describing the reason for the denial.

*AUTONOMOUS MESSAGES* report a change in the equipment/operations state of the DACS II. For example, a frame audit message (FRADTS) will be generated when a diagnostic and audit background test finds a problem with the equipment.

## Communicating With DACS II

---

### Input Command Modes

---

An input command requests an action to be performed; this command contains necessary information for DACS II to accomplish the requested action. The user has two basic modes for inputting commands: The command mode and the menu/prompt mode.

#### Command Mode

The command mode is for the experienced user or machine-machine operation. A command must be selected along with variables and entered within a single line. The user types a single-line command with the only carriage return occurring at the end. "Single-line" refers to the input *command*, not to the display of the command. *A long single-line command may extend for several lines on a display terminal.*

DACS II accepts up to 120 characters of input per command. If an input command exceeds 80 characters (the standard width of most terminal screens), the input will continue on the next line of the display beginning with the 81st character. However, the command line can be broken at a convenient place by typing a backslash (\) followed by a carriage return. The display of the input command will continue on the next line, but the command will be interpreted as a single-line command. If 120 characters is not sufficient or if the user finds entering long commands error-prone, the single-line command can be broken up into several smaller commands.

Entering a carriage return without the backslash terminates the input and causes the line to be interrupted. An exclamation point (!) also terminates the input command (that is, DACS interprets the carriage return and ! as the end of the command). If the carriage return is used, ! is echoed back to the terminal.

#### Menu/Prompt Mode

The **menu/prompt mode** consists of **on-line help** to assist a user in completing an input command. This mode aids the user by providing a list of context sensitive alternative variables or keywords.

The user starts the menu/prompt mode by entering a question mark (?) in the command line at the point in question. In response, DACS II presents a list of possible keywords. This list is presented to the user in menu or prompt form. At this point, the user may continue or return to the command line. If the user continues, he/she should refer to the detailed examples (menu form and prompt form) in the "On-Line Help Feature" section.

#### Aborting an Input Command or Output Message

The **ABT** command is entered to *interrupt an input command or an output message*. If **ABT** is entered for a particular link, the output from this link will be interrupted just after the **ABT** command is entered or after one or two output lines. The output message on the other links may or may not be interrupted, option dependent. When **ABT** is used, the command generating the output will be completed unless the autonomous message, **ERR CMD ABT**

TM STOPPED (Message O.01121), appears. See the ABT command (I.55711) in this document for a list of commands and messages that may be aborted.

For a nonabortable message, the output message will not be affected.

If a nonabortable message is being printed out but DACS II is executing an abortable command, the ABT command will stop that command and ERR CMD ABT TM STOPPED will be outputted on all links.

## **Input Command Format**

---

### **General**

The general format for an input command is:

VERB:FRM xy,SEQ ww:DATA [ ] !

VERB is the action verb telling the system to do something: add, change, cross-connect, restore, etc. The verbs are listed in Table 1 and in the Glossary.

The FRM xy field identifies the DACS II frame to which the command is being sent. A DACS II frame is identified by a 2-digit number whose range is from 00 through ZZ. This number is assigned to the frame when it is placed into operation.

The sequence field SEQ ww assigns an identifying 2-digit number to the command. The number is arbitrarily chosen by the operator. This field is commonly used when two or more remote operators using an OS are sharing the same administrative link. Sequence numbers enable the operators to keep track of their commands.

The frame and sequence fields are optional. If the sequence field is omitted, sequence number "00" is assigned to the command by default.

The DATA field consists of keywords and numbers as required by the command. A delimiter, brackets [ ] in this case, encloses variable optional information which gives specific information that is required by the verb to execute that command. All variables are positional by significance within the command line.

Colons are used to separate the variables (also called group, block, field); but if they are logically connected, these variables are separated by commas. The colon (:) is used as a variable field delimiter.

Additional variable information is contained in the EXPLANATION OF PARAMETERS as required for the message. Verbs, keywords, and variables are positionally significant within the command line.

### *Command Example*

RST:FRM 05,SEQ 12:NPC 097! PF

The above command asks DACS II to restore to service (RST) network processing circuit number 97 (NPC 097) in DACS II frame number 5 (FRM 05). The operator has arbitrarily assigned the sequence number 12 (SEQ 12) to the command.

### **Keywords**

An input command consists of *keywords* that combine the equipment and circuit identification variables. A *keyword* is an alphanumeric string of characters representing:

- Verb (also called action verb or command verb)
- Entity identification
- Address specification
- Results of a command.

*Verbs* are keywords or action verbs that tell the system to do something. Table 1 lists all Release 7.0 verbs and their associated keywords.

*Entity identification* is a keyword that identifies a specific system or circuit pack within the system. For example, the keyword NPC refers to a network processing circuit.

*Address specification* is a keyword that refers to a specific address. TP 03, for example, refers to a specific test port (Test Port 03).

Keywords sometimes report the results of a command. In response to a diagnostic command, DACS II might return the keyword ATP to indicate "All Tests Passed."

The "Glossary" section contains a listing of all keywords and their definitions.

### **Input Command Control Characters**

The following characters may be used while entering the input command:

**&** (or **CONTROL-x**, or **CTRL-x**). *Abandon message.* Entering any one of these characters will cause the message to be abandoned and will return the DACS II system prompt.

**^ h** (or **CONTROL-h** or **CTRL-h**), **\_** (underline), **S** (or **BACKSPACE**). *Erase last character.* Depressing the CONTROL and the H keys simultaneously or depressing the underline key or the BACKSPACE key causes DACS II to ignore the last character of a message and echo an underline (\_). Entering *n* number of erase character symbols causes DACS II to ignore the last *n* characters of a message.

**BREAK.** *Interrupt output message.* The BREAK key interrupts an output message. The message continues after an allotted amount of time has passed or after the operator completes entering the input command.

### **Input Command Acknowledgements**

After DACS II has received the execute character of the input command, an immediate reply will appear with one of the following acknowledgements:

#### **PF (Printout Follows)**

DACS II received the input command and processed it. An output message will soon be returned. The output message will report the results of the work initiated by the command. If the system cannot complete the command, the reason will be printed.

#### **RL (Retry Later)**

DACS II cannot execute the requested command now because it does not currently have system resources available.

- The system could be temporarily overloaded.
- The command queue could be excessively long.
- The requested program may be busy, etc.

Wait, and enter the command later.

#### **NG (No Good)**

The basic format of the command is correct, but the system is in trouble. For example, MP = MCOND means the main processor is in the maintenance condition state.

#### **NA (No Acknowledgement)**

The command has been accepted by the parser, but processing control has been lost, thus making correct acknowledgement impossible. An example is when the communications interface (CI) has detected a local area network (LAN) failure.

If either NA or RL is sent as an input acknowledgement, a normal or error output message may not be sent. Also, if the input command itself is in error, the input acknowledgement will indicate this fact and either the normal or error message will not be sent.



**Acknowledgement****Meaning**

|            |                                                                  |
|------------|------------------------------------------------------------------|
| ?V<cr><lf> | Command code error                                               |
| ?D<cr><lf> | Parameter block error                                            |
| ?E<cr><lf> | Error in command, cannot be identified as either ?V or ?D        |
| ?P<cr><lf> | Parity error occurred in the input                               |
| ?T<cr><lf> | The time between characters exceeded timeout threshold           |
| ?X<cr><lf> | Command aborted, in response to a <cancel> or <break> from user. |

**Output Message Format**

---

There are three types of DACS II output messages. The normal or **completion message** indicates that the input command from the user has been executed and completed. An error response or **denial message** means the input command has been denied and gives the reason or condition code for the denial. An autonomous output message reports a change in the operational state of the DACS II.

**General Format of a Single-Line Output Message**

The format for an output message is:

PA TIME FRM,SEQ LINK IDENT DATA TERM

The priority of action (PA) field is a 2-character field indicating the priority level as follows:

|    |                                             |
|----|---------------------------------------------|
| *C | Immediate action, critical alarm            |
| ** | Immediate action, major alarm               |
| *  | Action, minor alarm                         |
| M^ | Results of manual action                    |
| A^ | Autonomously generated action message       |
| I^ | Autonomously generated information message. |

**Note:** The ^ indicates a space.

TIME is the time of day using a 24-hour clock with an hours:minutes:seconds (hh:mm:ss) format.

The 2-digit FRM field identifies the DACS II frame that sent the message.

The LINK field contains a digit from 1 through 6, optionally followed by two more digits, that identifies the DACS II administrative link that originated the command. A blank LINK field indicates an autonomous message generated within DACS II. The optional two digits identify the virtual circuit number and range from 1 through 16.

The IDENT and DATA fields identify the action verb and associated keywords, variables, and data to which the output message is responding.

The termination field, TERM, indicates the results of a requested command. Some possible terminations are:

|       |                                |
|-------|--------------------------------|
| COMPL | Requested action is completed. |
|-------|--------------------------------|

---

|             |                                                                                                                                                                  |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STOPPED     | Requested action stopped before normal completion.                                                                                                               |
| IN PROGRESS | Requested action is in progress.                                                                                                                                 |
| [ ] DNY     | Requested action is denied. The reason for denial is indicated in the output message. The brackets signify various keywords and data used to explain the reason. |

### Completion Message

A possible response to the input command `RST:FRM 05,SEQ 12:NPC 097!` (restore to service network processing circuit number 097 in DACS II Frame 05) could be:

```
M 07:39:20 05,12 2 RST NPC 097 TYPE DE100 COND 00 COMPL
```

M, the priority of action, indicates the result of a manually entered command. The time (07:39:20), the DACS II frame number executing the command (05), the message sequence number (12), and the link number (2) follow. The remaining fields reflect the input command that originated the output message and the results of the command. In this case, network processing circuit number 097 (NPC 097), a standard DE100 digroup card (TYPE DE100), was restored to service (RST). Restoration of the NPC occurred without error (COND 00), and the command was successfully completed (COMPL).

### Denial Message

A possible response to the input command `RST:FRM 05,SEQ 12:NPC 097!` could be:

```
M 07:39:20 05,12 2 RST NPC 097 TYPE DE100 COND 02 DNY
```

The denial reason in this example (COND 02) means that the NPC is not equipped. The other fields in the message are the same as the completion message.

### Autonomous Messages

This example of an autonomous output message (65041) reports that a major or minor alarm for a parameter has been idled or cleared:

Nonhierarchical Format

```
I 07:39:20 05,12 ALM IDLD <parameter> NPC 097 COMPL
```

Hierarchical Format

```
I 07:39:20 05,12 ALM IDLD <parameter> NPC 01423 COMPL
```

**Table 1. Functional Categories of Messages**

| MESSAGE CATEGORY                                                  | NUMBER         | VERB         | KEYWORD                                              |
|-------------------------------------------------------------------|----------------|--------------|------------------------------------------------------|
| Input Denials                                                     | 01100          | *            | BAD, CMD, STOPPED, INACT                             |
| Startup Messages                                                  | 01200          | *            | STARTUP, BOOT, RESET                                 |
| Error Messages                                                    | 01300          | *            | ERR, OVERLOAD, RESET                                 |
| One-Way Cross-Connect<br>Two-Way Cross-Connect                    | 11000          | OCON<br>TCON | FROM, TO, MPM                                        |
| One-Way Terminated and<br>Two-Way Terminated<br>Cross-Connections | 12000          | OCNT<br>TCNT | FROM, TO, MPM                                        |
| Broadcast Cross-Connect                                           | 13000          | BCON         | FROM, TO, TOX, BCAST,<br>COND                        |
| Alternate Cross-Connect                                           | 14000          | ACON         | OLD, NEW, INCL, CUS, RDC                             |
| One-Way Disconnect<br>Two-Way Disconnect                          | 15000          | ODIS<br>TDIS | FROM, TO, BCAST                                      |
| Broadcast Disconnect                                              | 15200          | BDIS         | FROM, TOX, BCAST                                     |
| Change Circuit Parameters                                         | 17000          | CHG          | TCON, OCON, FROM, TO                                 |
| Change Circuit Parameters                                         | 18000          | CHG          | BCON, SWCH                                           |
| Edit Macro or<br>Alternate Map                                    | 19000          | ED           | MACRO, MAP, APPEND, OPEN<br>DELETE, LIST, SAVE, MOVE |
| Two-Way Monitor<br>Test Access                                    | 20000<br>21000 | CTST<br>TTST | FAD, FROM<br>MON, TP, ASSGN                          |
| Two-Way Split<br>Test Access                                      | 23000          | TTST         | SPL, TP                                              |
| Two-Way Hub<br>Test Access                                        | 24000          | TTST         | HUB, TP                                              |

\* Autonomous Output Message

**Table 1. Functional Categories of Messages (Contd)**

| MESSAGE CATEGORY                                                          | NUMBER | VERB  | KEYWORD                                                                                                     |
|---------------------------------------------------------------------------|--------|-------|-------------------------------------------------------------------------------------------------------------|
| Two-Way Terminate and Leave Activate/Release Test Access                  | 25000  | TTST  | TLA, TLR, TP, NUTST<br>UASGN, PTLA, NTLA                                                                    |
| Two-Way Test Port Release Test Access                                     | 27000  | TTST  | TPR, TP, ALL, COND                                                                                          |
| Two-Way Looped Test Access                                                | 29000  | TTST  | LPD, TP                                                                                                     |
| Growth                                                                    | 30000  | GRTH  | FRAME, SYNC, UNIT, TB<br>NPC, TP, TLI, RTMI, FC                                                             |
| Degrowth                                                                  | 32000  | DGRTH | SYNC, UNIT, TB, TLI<br>NPC, TP, FTMI, TYPE                                                                  |
| Remove                                                                    | 33000  | RMV   | MC, LINK, SYNC, CCNI<br>CCB, TSI, TSIS, UNIT<br>CRO, CCN, UC, FC, NPC<br>CCI, ETSI, ETSIS, ECCN             |
| Restore                                                                   | 34000  | RST   | MC, LINK, SYNC, CCNI<br>CCB, TSI, TSIS, CCN<br>UNIT, NPC, TLI, CRO<br>ALL, UC, FC<br>CCI, ETSI, ETSIS, ECCN |
| Configure                                                                 | 35000  | CFR   | XC, SYNC, FRAME                                                                                             |
| Add                                                                       | 36000  | ADD   | LINK, LEV, LANG                                                                                             |
| Edit/Delete                                                               | 37000  | DLT   | NPC, USER, FPKG                                                                                             |
| Change Unit, CCN, NPC Parameters, User/Link profile, and Memory Allotment | 38000  | CHG   | FRM, SYNC, UNIT, SETOP<br>NPC, PASSWD, SCR GR,<br>MAP SPACE                                                 |

**Table 1. Functional Categories of Messages (Contd)**

| MESSAGE CATEGORY                           | NUMBER | VERB                          | KEYWORD                                                                                              |
|--------------------------------------------|--------|-------------------------------|------------------------------------------------------------------------------------------------------|
| Activate Map, Execute Macro, Login, Logoff | 39000  | ACT, EXC, STOP, LOGIN, LOGOFF | MAP, MACRO, USER, TCON                                                                               |
| Diagnose                                   | 41000  | DGN                           | FRM, MC, LINK, CI, SSC, DISK, TAPE, XC, SYNC, CCNI, CCB, TSI, TSIS, UNIT, NPC CCI, ETSI, ETSIS, ECCN |
| Utilities                                  | 51000  | UTL                           | TOD, ACO, INIT, WHO QRY, DATE, BMTR, CLR FRM, VEDRSN, RCY, PASSWD CNFGR, ALM, FPKG                   |
| Utilities                                  | 52000  | UTL                           | QRY, CMAP, DMAP, FROM TO, BCAST, TYPE, ALL, SYNC, EQD, UNITS, TSIS MARK                              |
| Utilities                                  | 53000  | UTL                           | QRY, EQD, TPS, OPTS PEST, FAIL, OSS, ALMS ETSIS                                                      |
| Utilities                                  | 55000  | UTL                           | QRY, ESR, STR, ECCN                                                                                  |
| Utilities                                  | 56000  | UTL                           | CLR, STATE, LOC                                                                                      |
| Utilities                                  | 58000  | UTL                           | BOOT, CLR                                                                                            |
| Alarm                                      | 65000  | ALM                           | CGA, DC, AR01, MJ, MN IDLD, ECCN, OOS, BMTR                                                          |
| Audits                                     | 81000  | AUD                           | QRY, ALL, FTU, NPCS                                                                                  |
| Frame Audits                               | 82000  | FRADTS*                       | DGN, FRCMP, BMCMP, MC                                                                                |

\* Autonomous Output Message

## **DACS II Administrative Links**

The DACS II can be administered (managed, operated) from a local terminal or remotely from an operations system (OS) connected via an administrative link. Six physical links can be connected to the DACS II frame. Links 1–4 are asynchronous and links 5 and 6 can be

asynchronous or synchronous depending on the communications interface. Sixteen virtual circuits may be established on a synchronous link.

Variables *n* and *vv* are used within the message formats to represent the physical and virtual link numbers, respectively.

A level of message screening can be assigned to each link. A user may choose to always receive output messages in response to his/her commands, to receive selected messages, or to receive all messages from the other links. Autonomous messages may be blocked for a particular link to prevent other output messages from being interspersed among the user's messages. Some uses of an administrative link are:

- DS0 channel and clear DS1 signal cross-connections and test access
- Subrate data feature cross-connections
- Common equipment and feature equipment provisioning and maintenance
- Equipment and channel status information
- DS1 and DS3 facility provisioning and maintenance
- DS1 and DS3 facility performance readings
- DS3 facility alarm surveillance and control (AS&C) and DS3 performance monitoring using telemetry asynchronous block serial (TABS) protocol.

Administrative links carry output messages in response to one of the following occurrences:

- An input command

The output message reports that the input command was either completed successfully or denied; additionally, it may contain information requested by the input command. A *normal response* is an output message reporting a successful completion; and *error response* is an output message reporting a denial.

- An autonomous change in DACS II operation state

The output message reports a change in the DACS II system operation state which includes alarms and other trouble indications. This type of output message is referred to as an *autonomous response*.

## **NPC Addressing**

---

Two addressing or numbering schemes for network processing circuits are available: the **nonhierarchical or extended format** and the **hierarchical**. These numbering methods are used to provide a means of locating network processing circuits.

### **Nonhierarchical Numbering**

---

The **nonhierarchical or extended method** uses consecutive numbering to count through the units in the frame. Each unit has a fixed starting number (for example, 161 for unit 2; 21 for unit 3; 481 for unit 4). The starting number is the same for FTU or DSPU type units.

### **Hierarchical Numbering**

---

The **hierarchical method** uses a three-part number: the unit number (uv), the module or group number within the unit (m), and the NPC number within the module (np) for a total of five digits (uvmnp).

## **On-Line Help Feature**

---

### **Description**

---

DACS II provides on-line assistance to the user when constructing commands at the terminal. This assistance is in the form of a menu-driven help routine. Different menus are displayed during the routine to provide the user with information on all of the command fields. The menu items include: command verbs, applicable keywords for a command, definitions of keywords, and the possible choices or number range for a variable field. Inappropriate selections bring error messages.

The help routine can be used to the degree needed to complete the command: either through the entire command in every field or only for a particular part of the command. Help will probably not be needed after some experience is gained at entering commands, since all the commands are documented and the direct entry of commands is so much faster.

The question mark and RETURN are entered to invoke the different levels of the help routine. A question mark is entered by simultaneously depressing **SHIFT** and **?**. The question mark is used to initiate the routine or to get more information, and RETURN is used to see the alternative choices at a given point. The dialogue can be terminated either by typing CTRL-x or by completing the current command line when it is displayed. These functions are demonstrated in the following portion.

### **Summary: The Help Feature**

---

By entering **SHIFT** **?**, the user may ask DACS II for help at any time before or during the construction of an input command.

In the help mode, DACS II will offer the user menus for the selection of the message keywords and/or prompt for values of variable fields. Entering **SHIFT** **?** provides a greater detail of information on the keywords or variables.

A user may select a keyword from a menu by selecting its index number or by entering the keyword itself.

The **RETURN** key displays the command line that has been constructed so far. The user may then enter the remaining keywords and values to complete the command or may enter **SHIFT** **?** to return to the menu/prompt mode.

### **Constructing An Entire Command Using Help**

---

The following sequence demonstrates the use of the menus in the help routine to construct a simple UTL (utility) command. Only portions of long menu lists are shown here, but these examples still serve to demonstrate how selections are made.

- (1) To invoke the help routine at the start level, enter **SHIFT** **?**. DACS II will respond with OK and the following menu:

Select from:

1. ABT
2. ADD
3. AUD
- .
- .
- .
20. UTL

Selection?



- (2) To obtain more explanation, enter **SHIFT** **?**. DACS II will respond with OK and the following list:

Select from:

1. ABT (abort the current command)
2. ADD (adjust link parameters)
3. AUD (query facility alarm data)
- .
- .
- .
20. UTL (perform a general utility)

Selection (1-20 or the actual literal)?

- (3) Here you can enter either 20 or UTL followed by **SHIFT** **?**. The DACS responds with this menu:

Select from:

1. ,
2. :
3. FRM
4. SEQ

Selection?

- (4) To bypass the frame and sequence number, which is normally done unless that information is needed for records or to direct the command to a different location, the user enters either 1 or : followed by **SHIFT** **?**. The question mark prompts DACS II to respond with a list of possible keywords that could appear next in the command. The list is long; DACS II prompts the user to enter **RETURN** to page through it.

Select from:

1. ACO
2. ALL
3. ALMS
- .
- .
- .
81. UNITS
82. WHO
83. XC

- (5) If the user enters a keyword and **?**, DACS II responds with OK and supplies the only appropriate keyword(s) to complete the command. For example, if the user enters WHO and **SHIFT ?**, DACS II responds:

```
UTL: :WHO, QRY!  
Command-line complete. Submit (YES/NO)?
```

- (6) To enter the command, the user simply enters Y followed by **RETURN** .

### **Obtaining Help at a Particular Point on a Command Line**

---

In addition to being used to construct a command from scratch, DACS II's on-line help can be used to obtain information on particular fields of a command. If the command format is not known or if the keywords or variables are not clear, the help dialogue can be initiated at any point by entering **SHIFT ?** .

- (1) Assume the user desires to cross-connect a multipoint circuit and enters the following command:

```
TCON: FROM 001001, TO 002003, MPM(SYM, LEG), TRSP!
```

DACS II responds:

```
M 08:19:06 01,00 2 TCON INERR BAD SYNTAX 2 LN MSG:  
TCON: : FROM 001001, TO 002003, =MPM=(SYM, LEG), TRSP! DNY
```

=MPM= indicates a problem.

- (2) The user can use the help feature to obtain information to reenter the correct command. He or she enters TCON: : FROM and **SHIFT ?** . DACS II responds:

```
ds3u unit number =
```

- (3) The user desires a circuit using a DSPU NPC (Digital Signal Processing Unit Network Processing Circuit), not an FTU (Facility Terminating Unit). He or she enters **RETURN** to see the next option which is:

ftu npc number =

Another **RETURN** brings the desired option which is:

dspu npc number =

- (4) To get more information at this point, the user enters **SHIFT** **?**, and DACS II responds:

dspu npc number (3-digit decimal integer, range 641-941) =

This is where the trouble occurred in the original command; one of the NPCs must be an MB-type in the range 641-941 (for specific values, see Message 11021). The user enters 641 and **SHIFT** **?**.

- (5) DACS II responds:

dmb conference number =

The user enters **SHIFT** **?** to get more information:

dmb conference number (decimal integer, range 1-85) =

- (6) The user enters the conference number, 2. To view the current command line, the user enters **RETURN** DACS II echos the command line completed so far:

TCON::FROM 6412

The user may complete the command by directly entering remaining keywords and parameter values. By entering **SHIFT** **?**, DACS II proceeds with the menu and prompts for the remainder of the command:

Select from:

- 1. CUS
- .
- .
- .
- 8. TO
- 9. TRB
- 10. TRSP

Selection?

- (7) The user enters 8 selecting the TO keyword (TCON::FROM 641002,TO . . .). The user then enters **SHIFT** **?** to ask for information in the next command field. DACS II responds:

ftu npc number =

- (8) The user enters **SHIFT** **?** to get information on FTU NPC values. DACS II responds:

ftu npc number (3-digit decimal integer, range 001-640) =

- (9) The user enters FTU NPC number 002 and **RETURN** DACS II responds with the command line developed to this point:

TCON::FROM 6412,TO 002

- (10) By entering **SHIFT** **?**, the user may continue to be prompted through the construction of the remainder of the command or may directly input the remainder of the command for execution:

TCON::FROM 641002,TO 002003, MPM(SYM,LEG), TRSP!

## **System Configuration**

---

### **Frame Configuration and Bay Growth**

---

This section discusses the frame configuration for a standard DACS II Capacity Expansion Frame (CEF) and for a retrofitted CEF. In addition, it details the bay growth schemes and requirements for the CEF. The same command is used to configure a non-CEF system. However, the responses will vary since a non-CEF can have a maximum of two interface bays.

#### **Frame Configuration**

A DACS II CEF supports one switch bay and up to six interface bays. The switch bay, always bay 2, controls the overall DACS II system operations and provides the switch matrix, power, timing and alarm, and administrative link connections. The interface bay terminates digital facilities and/or provides the digital signal processing function. Interface bays 1, 3, 4, and 5 support three unit positions, while interface bays 6 and 7 support two units. Therefore, a CEF can be equipped with a total of 16 units. Two interface bay types are supported:

- **Original Interface Bay**

The original interface bay supports two facility terminating units (FTUs) in its two upper unit positions and one digital signal processing unit (DSPU) or DS3 unit (DS3U) in its lower unit position. The original interface bay only appears in a retrofitted Release 5.0 CEF. An interface bay used for a CEF can be an original interface bay only if the frame is a retrofit CEF. In such a case, the original interface bay can only be in bays 1 and 3. Bay 3 can be an original interface bay only if the CEF is retrofitted from a 3-bay frame. If bay 3 of a CEF is an original interface bay, bay 1 must also be an original interface bay.

- **Flexible Interface Bay**

The flexible interface bay allows fully flexible unit provisioning. Each of the unit positions can be independently equipped as an IFTU, DSPU, or DS3U. The flexible interface bay can occupy any interface bay location; that is, it can occupy bay 1, 3, 4, 5, 6, or 7. The flexible interface bay is the standard interface bay type for the Release 5.0 CEF.

#### **Bay Growth**

The minimum bay equipage for a CEF is two bays: Bay 1 (an interface bay) and bay 2 (the switch bay). DACS II allows additional peripheral units and/or bays to be added to an in-service CEF without causing a hit to the existing service.

The bay choices and growth are provisioned by entries to the configuration file using the configuration file command:

```
[I.35021]
CFR:FRM xy,SEQ ww:FRAME!
```

After all data is entered into the configuration file and it is accepted, DACS II outputs the following response:

```
[O.35021]
M hh:mm:ss xy,ww n[vv] CFR FRAME[ COND cc] COMPL
```

### **Procedure For Configuring the Frame**

When the configuration file command is entered, DACS II leads the user to complete the entry of the file by displaying the Main Menu below:

- 1: Initialize/Reset Configuration File
- 2: Add new bay(s) and unit(s)
- 3: Add unit(s) to existing bay(s)
- 4: Change unit(s) type
- 5: Remove unit(s) OR bay(s) and unit(s)
- 6: Recall configuration data
- 7: Exit

#### **Option 1, Initialize/Reset Configuration File**

If Option 1 (initializing or resetting the configuration file) is selected, DACS II leads the user through the steps detailed below.

**Note:** A default option has been assigned to each step and each time a step is entered, DACS II presents its default option unless a user has previously selected an option. In such case, the user-selected option is displayed.

Step 1. Choose the Software Serial Number.

Default = 1234567890.

Step 2. Choose the height of the bay.

The options are:

- 1: 7'0''
- 2: 11'6''

Default = 7'0''.

Step 3. Choose the Cross-Connect Network designation.

Choose ECCN for a CEF  
Choose CCN1 for a non-CEF multibay frame  
Choose CCN2 for a single-bay frame (SBF)

Step 4. Choose the allowable nonhierarchical NPC addressing scheme.

The options are:

- 1: Both 3-digit and 4-digit are allowed
- 2: Only 3-digit is allowed
- 3: Only 4-digit is allowed

Default = Option 1 (both 3-digit and 4-digit).

Selection of option 1 or 3 will be denied if the frame is non-CEF. Selection of option 3 on a CEF will be denied if there is one or more administrative link or if the user has chosen the 3-digit scheme. Similarly, the selection of option 2 on a CEF will be denied if there is one or more administrative links or users using the 4-digit scheme. The denial causes an error message to be displayed; after that, DACS II returns to the Main Menu. In this case, all the choices entered in the previous steps are discarded. Once the Main Menu is shown, the user can either exit to change the provisioning of the link (or user) or select another option from the menu.

Note that for domestic DACS II frames, the 3-digit NPC addressing scheme is the default for DACS II administrative links/users. Also, since the hierarchical NPC addressing scheme does not restrict the frame configuration, there is no selection needed here.

Step 5. Choose total number of bays.

The options are:

- 1: 1 bay
- 2: 2 bays
- 3: 3 bays
- 4: 4 bays
- 5: 5 bays
- 6: 6 bays
- 7: 7 bays

Default = 2 bays (Option 2).

Option 1 above (1 bay) is not allowed for a CEF. Options 4 through 7 must not be selected for a non-CEF. Options 4 through 7 are allowed only if the 4-digit scheme (i.e., Option 3 of Step 4) is selected. Otherwise, an error message will be generated and Step 4 will be displayed again.

Step 6. Choose bays.

Step 6.1 If the total number of bays selected is 2, choose bays 1 and 2.

Choose bay 1 type. In the figure below, the boxes shown represent the physical relationship between the switch bay (bay 2) and the bay selected; that is, the one surrounded by asterisks (\*).

```

*****-----
*           |           |
* Bay 1    | ECCN    |
*           |           |
*****-----

```

SELECT BAY 1 TYPE

- 1: Flexible Interface Bay (Units 1, 2, 5)
- 2: Original Interface Bay (Units 1, 2, 5)

Default = Option 1 (Flexible Interface Bay).



Step 6.2 If the total number of bays selected is 3, choose the third bay as below.

```

*****_-----*****
*
* Bay 4 | Bay 1 | ECCN | Bay 3 *
*      |      |      |      *
*****_-----*****

```

SELECT THE NEXT BAY POSITION

- 1: (Bay 3, Flexible Interface Bay (Units 3, 4, 6)
- 2: (Bay 3, Original Interface Bay (Units 3, 4, 6)
- 3: (Bay 4 (Units 7, 8, 11)

Default = Option 1 Bay 3, Flexible Interface Bay)

Step 6.3 If the total number of bays selected is 4, select the fourth bay.

Depending on which bay is selected as the third bay, the options chosen for the fourth bay will be one of the following:

Step 6.3.1 If bay 3 is the third bay configured, the fourth bay can only be one of the following:

```

*****_-----*****
*
* Bay 4 | Bay 1 | ECCN | Bay 3 | Bay 5 *
*      |      |      |      |      *
*****_-----*****

```

SELECT THE NEXT BAY POSITION

- 1: Bay 4 (Units 7, 8, 11)
- 2: Bay 5 (Units 9, 10, 12)

Default = Option 1.

Step 6.3.2 If Bay 4 is the third bay configured, the fourth bay can only be one of the followings:

```
***** _ _ _ _ _ *****
*      |      |      |      |      *
* Bay 6 | Bay 4 | Bay 1 | ECCN | Bay 3 *
*      |      |      |      |      *
***** _ _ _ _ _ *****
```

SELECT THE NEXT BAY POSITION

- 1: Bay 3, Flexible Interface Bay (Units 3, 4, 5)
- 2: Bay 3, Original Interface Bay (Units 3, 4, 5)
- 3: Bay 6 (Units 13, 14)

Default = Option 1.

Bay 1 must also be an original interface bay. If this rule is violated, the type for both bays (bays 1 and 3) must be reentered.

Step 6.4 If the total number of bays is 5, choose the fifth bay.

Depending on the third and fourth bays selected, the selection for the fifth bay will be one of the following:

Step 6.4.1 If bays 3 and 4 are the third and fourth bays (in any order), the options are:

```
***** _ _ _ _ _ *****
*      |      |      |      |      *
* Bay 6 | Bay 4 | Bay 1 | ECCN | Bay 3 | Bay 5 *
*      |      |      |      |      *
***** _ _ _ _ _ *****
```

SELECT THE NEXT BAY POSITION

- 1: Bay 5 (Units 9, 10, 12)
- 2: Bay 6 (Units 13, 14)

Default = Option 1.

Step 6.4.2 If bays 3 and 5 are the third and fourth bays (in any order), the options are:

```

*****_-----*****
*      |      |      |      |      |      *
* Bay 4 | Bay 1 | ECCN | Bay 3 | Bay 5 | Bay 7 *
*      |      |      |      |      |      *
*****_-----*****

```

SELECT THE NEXT BAY POSITION

- 1: Bay 4 (Units 7, 8, 11)
- 2: Bay 7 (Units 15, 16)

Default = Option 1.

Step 6.4.3 If bays 4 and 6 are the third and fourth bays, the options are:

```

-----*****
|      |      |      |      |      *
| Bay 6 | Bay 4 | Bay 1 | ECCN | Bay 3 *
|      |      |      |      |      *
-----*****

```

SELECT THE NEXT BAY POSITION

- 1: Bay 3, Flexible Interface Bay (Units 3, 4, 6)
- 2: Bay 3, Original Interface Bay (Units 3, 4, 6)

Default = Option 1.

**Note:** Option 2 is allowed only if bay 1 is an original interface bay. If this rule is violated, the bay type for both bays (bays 1 and 3) must be reentered.

Step 6.5 If the total number of bays is 6, choose the sixth bay.

Depending on which bays are already configured, the option displayed will be one of the following:

Step 6.5.1 If bays 3, 4, and 5 were chosen

```

*****
*                               *
* Bay 6 | Bay 4 | Bay 1 | ECCN | Bay 3 | Bay 5 | Bay 7 *
*                               *
*****

```

SELECT THE NEXT BAY POSITION

- 1: Bay 6 (Units 13, 14)
- 2: Bay 7 (Units 15, 16)

Default = Option 1.

Step 6.5.2 If bay 4 has not been chosen, choose bay 4 as the sixth bay configured.

```

*****
*                               *
* Bay 4 | Bay 1 | ECCN | Bay 3 | Bay 5 | Bay 7 |
*                               *
*****

```

THE NEXT BAY IS BAY 4

Step 6.5.3 If bay 5 was not selected, choose bay 5 as the sixth bay configured.

```

*****
| Bay 6 | Bay 4 | Bay 1 | ECCN | Bay 3 | Bay 5 *
|                               |
|                               |
*****

```

THE NEXT BAY IS BAY 5

Step 6.6 If the 7-bay option is selected, determine if the bay type for bays 1 and 3 has already been stored in the data base. If so, go to Step 7. Otherwise, choose these two bays.

Step 6.6.1 Choose the type for bay 1:

```

-----*****-----
| Bay 6 | Bay 4 | Bay 1 | ECCN | Bay 3 | Bay 5 | Bay 7 |
|       |       |       |     |     |     |       |
|       |       |       |     |     |     |       |
-----*****-----

```

SELECT BAY 1 TYPE

- 1: Flexible Interface Bay (Units 1, 2, 5)
- 2: Original Interface Bay (Units 1, 2, 5)

Default = Option 1.

Step 6.6.2 Choose the type for bay 3:

```

-----*****-----
| Bay 6 | Bay 4 | Bay 1 | ECCN | Bay 3 | Bay 5 | Bay 7 |
|       |       |       |     |     |     |       |
|       |       |       |     |     |     |       |
-----*****-----

```

SELECT BAY 3 TYPE

- 1: Flexible Interface Bay (Units 3, 4, 6)
- 2: Original Interface Bay (Units 3, 4, 6)

Default = Option 1.

Step 7. Choose unit types.

Step 7.1 For original interface bay 1, the unit types are:

Units 1, 2: FTU or NONE

Unit 5: DS3U, DSPU, or NONE

Default for units 1 and 2 = FTU.

Default for unit 5 = DSPU.

Step 7.2 For the flexible interface bay 1, unit types are:

Units 1, 2, 5: IFTU, DSPU, DS3U or NONE

Default = IFTU. Only one type of IFTU is available in Release 5.0. Thus, no version selection is necessary.

Step 7.3 For original interface bay 3, the unit types are:

Units 3, 4: FTU or NONE

Unit 6: DSPU, DS3U or NONE

Default for units 3 and 4 = FTU.

Default for unit 6 = DSPU.

Step 7.4 For flexible interface bay 3, the unit type can be:

Units 3, 4, 6: IFTU, DSPU, DS3U or NONE

Default = IFTU.

Step 7.5 Bay 4 is restricted to the flexible interface bay type, and the unit type can be:

Units 7, 8, 11: IFTU, DSPU, DS3U or NONE

Default = IFTU.

Step 7.6 Bay 5 is restricted to a flexible interface bay type, and the unit type can be:

Units 9, 10, 12: IFTU, DSPU, DS3U or NONE

Default = IFTU.

Step 7.7 Bay 6 is restricted to the flexible interface bay type, and the unit type can be:

Units 13, 14: IFTU, DSPU, DS3U or NONE

Default = IFTU.

Step 7.8 Bay 7 is restricted to a flexible interface bay type, and the unit type can be:

Units 15, 16: IFTU, DSPU, DS3U or NONE

Default = IFTU.

**Note:** It is acceptable for all units to be configured with the option NONE. Also, if the software used on the frame does not support the DS3 termination feature, the DS3U option will not be displayed.

Step 8. After all unit types are chosen and accepted by DACS II, the following will be displayed:

Are the Frame # and UID to be unprotected?

1: YES

2: NO

Default = unprotected.

When all required data for initializing/resetting the configuration file is entered, the user must press the RETURN key to view the Main Menu. Recalling data, changing data or exiting must be implemented through the Main Menu. Note that DACS II does not back up the configuration data to DISK until the user exits.

To interrupt the data entry and exit, press the DELETE key followed by the RETURN key. Once this interrupt signal is received, DACS II denies the input command, and all newly entered data is discarded. In this case, the input command I.35021 must be reentered to allow initialization or editing of the configuration file.

### **Option 2, Add New Bay(s) and Unit(s)**

To add new bay(s) and/or unit(s) from the Main Menu, DACS II first verifies that the action is allowed. The action of adding new bay(s) and/or unit(s) (option 2 from Main Menu) will be denied if any of the following conditions exist:

- a. The configuration file is not initialized.
- b. All bays are configured.
- c. DACS II is a single bay frame (SBF) or a 3-bay non-CEF.
- d. DACS II is a 3-bay CEF equipped with bays 1, 2 and 3, and at least one of its links/users is using the 3-digit scheme.

Once the selection is accepted, DACS II displays the allowable nonhierarchical NPC addressing scheme. If DACS II is currently a 2-bay frame, DACS II displays the same choices as displayed in Step 4 above, except that, instead of the default option, the currently recorded option is displayed. In this case, all requirements for Step 4 above apply.

If the frame is already equipped with three or more bays, DACS II displays the following:

THE NONHIERARCHICAL NPC ADDRESS SCHEME IS THE 4-DIGIT SCHEME

### **Option 3, Add Unit(s) to Existing Bay(s)**

To add unit(s) to an existing bay from the Main Menu, enter option 3. Units listed are those configured as type NONE. DACS II lists the units in ascending order, with the first unit listed being the default.

Once the unit is selected, DACS II displays the unit type as shown in Step 7 above. However, DACS II only shows up to three options (IFTU/FTU, DSPU, and DS3U) for each unit, depending on the feature package used. The NONE option will not be shown.

After the unit type is selected, if there are other units configured as NONE, DACS II asks the user if another unit is to be added. If the answer is yes, the unit list will be shown again and the same procedure must be repeated. Otherwise, DACS II will allow the user to return to the Main Menu.

The selection of option 3 from the Main Menu will be denied if either of the following two conditions exists:

- a. The configuration file is not initialized.
- b. No units are configured as NONE.

#### **Option 4, Change Unit(s) Type**

To change the unit(s) type, enter option 4 from the Main Menu. Units listed are types IFTU, DSPU and DS3U. Note that an FTU cannot be changed to another unit type and vice versa. DACS II lists the units in ascending order. The first unit listed is the default.

Once the unit is selected, DACS II shows the two allowable choices of the new unit type.

If the original unit type is IFTU, the choice is:

- 1: DSPU
- 2: DS3U

If the original unit type is DSPU, the choice is:

- 1: IFTU
- 2: DS3U

If the original unit type is DS3U, the choice is:

- 1: IFTU
- 2: DSPU

**Note:** The DS3U option will not be displayed if the DS3 termination feature is not supported by the frame.

After the new type unit is selected, DACS II asks the user if another unit is to be changed to a new type. If the answer is yes, the same procedure must be repeated.



The choice of option 4 from the Main Menu will be denied if one of the following conditions exists:

- a. The configuration file is not initialized.
- b. The selected unit is grown by the GRTH command.
- c. All units are configured with type NONE or FTU.

### **Option 5, Delete Unit(s) or Bay(s) and Unit(s)**

To delete unit(s) or bay(s) and units(s) from the Main Menu, choose the unit number. The units listed are those of a type other than NONE. DACS II lists the units in ascending order, and the first unit listed is the default.

Once the unit is selected, DACS II shows that the unit type is NONE and asks if another unit is to be deleted. If the answer is yes, the same procedure must be repeated. If the answer is no, DACS II then checks to verify if there is a bay with all units as type NONE. If such a bay exists and the bay is not bay 1, DACS II queries the user if the bay is to be deleted. If the response is yes, DACS II deletes the bay and its units from the configuration file. DACS II repeats the routine for each qualified bay. Note that although all three units of bay 1 can be designated as NONE, bay 1 cannot be deleted from the frame.

**Note:** If all units are configured as type NONE when the option is selected, DACS II immediately starts the bay deletion check.

The deletion of the unit is denied if either of the following conditions exists:

- a. The configuration file is not initialized.
- b. The selected unit is grown by the GRTH command.

### **Option 6, Recall Configuration Data**

If option 6 is entered from the Main Menu, DACS II presents the configuration file from the most recently completed session. If no session was previously completed, the file stored before the current command is entered will be displayed.

A 7-bay configuration is shown below as an example:

|                |                |               |      |               |                |                |
|----------------|----------------|---------------|------|---------------|----------------|----------------|
| Bay6           | Bay4           | Bay1          | Bay2 | Bay3          | Bay5           | Bay7           |
| Unit14<br>TYPE | Unit8<br>TYPE  | Unit2<br>TYPE |      | Unit4<br>TYPE | Unit10<br>TYPE | Unit16<br>TYPE |
| Unit13<br>TYPE | Unit7<br>TYPE  | Unit1<br>TYPE | ECCN | Unit3<br>TYPE | Unit9<br>TYPE  | Unit15<br>TYPE |
| -----<br>TYPE  | Unit11<br>TYPE | Unit5         |      | Unit6<br>TYPE | Unit12<br>TYPE | -----          |

Bay 1 Type: Original Interface Bay  
 Bay 3 Type: Flexible Interface Bay  
 Height of Bay: 7'0''  
 Software Serial Number: 1234567890  
 Frame Number: UNINITIALIZED (UNPROTECTED)  
 Unique Id: UNINITIALIZED  
 Nonhierarchical NPC Address Scheme: 4 digits

Note that the TYPE can be IFTU, DSPU, DS3U, or NONE, depending on the type provisioned. The bay type for bays 1 and 3 can be either the original interface bay or flexible interface bay. The word "UNINITIALIZED" is shown for the frame number and for the unique ID number if these numbers are not entered. Otherwise, the number and/or ID stored will be output instead of the word "UNINITIALIZED." DACS II shows whether or not the frame number is protected (in parentheses).

If a specific bay has not been selected, its space will be filled with blanks. An example of a 3-bay frame configuration follows:

|               |      |               |
|---------------|------|---------------|
| Bay1          | Bay2 | Bay3          |
| Unit2<br>TYPE |      | Unit4<br>TYPE |
| Unit1<br>TYPE | ECCN | Unit3<br>TYPE |
| Unit5<br>TYPE |      | Unit6<br>TYPE |

After the configuration file is recalled, DACS II instructs the user to return to the Main Menu.

If the configuration file is not initialized, the recall option will be denied.

### **Option 7, Exit**

If Option 7 is selected from the Main Menu, DACS II shows all data in the configuration file as if the "recall" option were chosen. In addition, DACS II displays the following:

```
Is the above data correct ? (if not, reenter the data)
  1: YES
  2: NO
IS DATA CORRECT ?
```

If the answer is yes, DACS II displays the following menu:

```
Preparing to write Configuration File to DISK
Please wait while writing to disk
Are you sure? (YES/NO)
```

If the answer is yes, DACS II begins writing the configuration file to DISK. When the configuration file backup is completed, output message O.35021 appears. DACS II backs up the configuration file to DISK before generating message O.35021.

**Note:** DACS II generates the completion message even if the content of the configuration file is unchanged.

### **Configuration File Completion**

---

The configuration file command can only be executed if the conditions listed are met:

1. The MC is in maintenance condition.
2. The command is entered from link 1.
3. The command is entered by the superuser.

The configuration file command allows the configuration information to be entered all at once or at the time that a new bay or unit is added to the frame. The entry of unit types into the unit positions in the configuration file does not equip these units; rather it limits unit equipage to be consistent with the configuration file and makes the equipment locate function available to assist the craft installation operations before the equipment has been placed in service.

## Documentation Support

The following sections provide descriptions of the following types of DACS II documents:

- Customer Reference Manual
- Operation and Maintenance Manual
- Command and Message Manual
- Quick Reference Guide
- Customer Information Releases

### Customer Reference Manual

This manual provides the overall description of the DACS II equipment and features including physical, functional, application, and capability considerations and administrative link connections.

The following table lists the Customer Reference Manual by select code, issue, and applicable software release.

| Document #    | Subject                           | Iss. | Release |   |   |   |   |   |
|---------------|-----------------------------------|------|---------|---|---|---|---|---|
|               |                                   |      | 1       | 2 | 3 | 4 | 5 | 6 |
| 365-301-002   | DACS II Customer Reference Manual | 1    | X       |   |   |   |   |   |
|               |                                   | 2    |         |   | X |   |   |   |
|               |                                   | 3    |         |   | X | X |   |   |
|               |                                   | 4    |         |   |   | X | X |   |
| 365-352-000   | DACS II Customer Reference Manual | 1    | X       | X | X | X | X |   |
| 365-353-000 * | DACS II Customer Reference Manual | 1    | X       | X | X | X | X | X |

\* Last version.

## **Operation and Maintenance Manuals**

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The operation and maintenance manuals contain instructions on how to operate the DACS II and how to clear trouble messages. These manuals are intended to be the guide for daily use and for troubleshooting before requesting technical help. The operation and maintenance manuals for the basic core software and all features are available in both MML and PDS versions.

The following table lists the Operation and Maintenance Manual by select code, issue, and applicable software release.

| Operation and Maintenance Manual |                                                           |       |         |   |   |   |   |   |
|----------------------------------|-----------------------------------------------------------|-------|---------|---|---|---|---|---|
| Document #                       | Subject                                                   | Iss.  | Release |   |   |   |   |   |
|                                  |                                                           |       | 1       | 2 | 3 | 4 | 5 | 6 |
| 365-301-601                      | DACS II Operation and Maintenance Manual                  | 1     | X       |   |   |   |   |   |
| 365-301-605                      | DACS II (PDS)                                             | 1     |         | X |   |   |   |   |
| 365-301-606                      | DACS II (MML)                                             | 1     |         | X |   |   |   |   |
| 365-301-615                      | DACS II (PDS)                                             | 1     |         |   | X | X |   |   |
| 365-301-616                      | DACS II (MML)                                             | 1     |         |   | X | X |   |   |
| 365-301-617                      | DACS II (PDS) Subrate Feature                             | 1     |         |   | X | X |   |   |
|                                  |                                                           | 2     |         |   | X | X | X |   |
| 365-301-618                      | DACS II (MML) Subrate Feature                             | 1     |         |   | X | X |   |   |
|                                  |                                                           | 2     |         |   | X | X | X |   |
| 365-301-619                      | DACS II (PDS) SLC® 96 Carrier Feature                     | B     |         |   | X | X |   |   |
|                                  |                                                           | 2     |         |   | X | X | X |   |
| 365-301-620                      | DACS II (MML) SLC® 96 Carrier Feature                     | A     |         |   | X | X |   |   |
|                                  |                                                           | 2     |         |   | X | X | X |   |
| 365-301-615AI                    | DACS II (PDS) 2.048 Mb/s and Enhanced 2.048 Mb/s Features | Prel. |         |   | X |   |   |   |
|                                  |                                                           | 1     |         |   | X | X |   |   |
| 365-301-616AI                    | DACS II (MML) 2.048 Mb/s and Enhanced 2.048 Mb/s Features | 1     |         |   | X |   |   |   |
|                                  |                                                           | 2     |         |   | X | X |   |   |
| 365-301-621                      | DACS II (PDS) Gateway Feature                             | 1     |         |   | X | X |   |   |
| 365-301-622                      | DACS II (MML) Gateway Feature                             | 1     |         |   | X | X |   |   |
| 365-301-623                      | DACS II PDS Domestic                                      | 2     |         |   |   | X |   |   |

| Operation and Maintenance Manual |                                                                                               |      |         |   |   |   |   |   |
|----------------------------------|-----------------------------------------------------------------------------------------------|------|---------|---|---|---|---|---|
| Document #                       | Subject                                                                                       | Iss. | Release |   |   |   |   |   |
|                                  |                                                                                               |      | 1       | 2 | 3 | 4 | 5 | 6 |
| 365-352-001                      | DACS II PDS Domestic                                                                          | 1    |         |   |   | X | X |   |
| 365-352-011                      | DACS II MML Domestic                                                                          | 1    |         |   |   | X | X |   |
| 365-352-021                      | DACS II PDS 2.048 Mb/s                                                                        | 1    |         |   |   | X | X |   |
| 365-352-031                      | DACS II MML 2.048 Mb/s                                                                        | 1    |         |   |   | X | X |   |
| 365-301-627                      | DACS II Capacity Expansion Frame, (PDS) Core with DS1, DS3, and Gateway Features              | 1    |         |   |   |   | X |   |
| 365-301-627AI                    | DACS II Capacity Expansion Frame, (PDS) Core with 2.048 Mb/s and Enhanced 2.048 Mb/s Features | 1    |         |   |   |   | X |   |
| 365-301-628                      | DACS II Capacity Expansion Frame, (MML) Core with DS1, DS3, and Gateway Features              | 1    |         |   |   |   | X |   |
| 365-301-628AI                    | DACS II Capacity Expansion Frame, (MML) Core with 2.048 Mb/s and Enhanced 2.048 Mb/s Features | 1    |         |   |   |   | X |   |
| 365-353-001                      | DACS II PDS Domestic                                                                          | 1    |         |   |   |   |   | X |
| 365-353-011                      | DACS II MML Domestic                                                                          | 1    |         |   |   |   |   | X |
| 365-353-021                      | DACS II PDS 2.048 Mb/s                                                                        | 1    |         |   |   |   |   | X |
| 365-353-031                      | DACS II MML 2.048 Mb/s                                                                        | 1    |         |   |   |   |   | X |

| Operation and Maintenance Manual ( <i>Contd</i> ) |                           |      |         |   |   |   |   |   |
|---------------------------------------------------|---------------------------|------|---------|---|---|---|---|---|
| Document #                                        | Subject                   | Iss. | Release |   |   |   |   |   |
|                                                   |                           |      | 1       | 2 | 3 | 4 | 5 | 6 |
| 365-353-051                                       | DACS II PDS Domestic      | 1    |         |   |   |   |   | X |
| 365-353-061                                       | DACS II MML Domestic      | 1    |         |   |   |   |   | X |
| 365-353-071                                       | DACS II PDS 2.048<br>Mb/s | 1    |         |   |   |   |   | X |
| 365-353-081                                       | DACS II MML 2.048<br>Mb/s | 1    |         |   |   |   |   | X |



## Command and Message Manuals

The command and message manuals are the reference documents for all the input and output messages and explanations of all message fields. These manuals are available in both MML and PDS versions.

The following table lists the Command and Message Manuals by select code, title, issue, and applicable software release.

| Command and Message Manuals |                                                  |      |         |   |   |   |   |   |
|-----------------------------|--------------------------------------------------|------|---------|---|---|---|---|---|
| Document #                  | Subject                                          | Iss. | Release |   |   |   |   |   |
|                             |                                                  |      | 1       | 2 | 3 | 4 | 5 | 6 |
| 365-301-603                 | Volumes I and II                                 | 1    | X       |   |   |   |   |   |
| 365-301-606                 | DACS II PDS                                      | 1    |         | X |   |   |   |   |
| 365-301-610                 | DACS II MML                                      | 1    |         | X |   |   |   |   |
| 365-301-651                 | DACS II (PDS) Core                               | 1    |         |   | X | X |   |   |
| 365-301-651AI               | DACS II (PDS) 2.048 Mb/s and Enhanced 2.048 Mb/s | 1    |         |   | X | X |   |   |
| 365-301-652                 | DACS II (MML) Core                               | 1    |         |   | X | X |   |   |
| 365-301-652AI               | DACS II (MML) 2.048 Mb/s and Enhanced 2.048 Mb/s | 1    |         |   | X | X |   |   |
| 365-301-653                 | DACS II (PDS) Subrate Feature                    | 1    |         |   | X | X |   |   |
| 365-301-654                 | DACS II (MML) Subrate Feature                    | 1    |         |   | X | X |   |   |
| 365-301-655                 | DACS II (PDS) <i>SLC</i> ® Carrier Feature       | 1    |         |   | X | X |   |   |
| 365-301-656                 | DACS II (MML) <i>SLC</i> ® Carrier Feature       | 1    |         |   | X | X |   |   |

| Command and Message Manuals ( <i>Contd</i> ) |                                  |      |         |   |   |   |   |   |   |
|----------------------------------------------|----------------------------------|------|---------|---|---|---|---|---|---|
| Document #                                   | Subject                          | Iss. | Release |   |   |   |   |   |   |
|                                              |                                  |      | 1       | 2 | 3 | 4 | 5 | 6 | 7 |
| 365-301-657                                  | DACS II (PDS)<br>Gateway Feature | 1    |         |   | X | X |   |   |   |
| 365-301-658                                  | DACS II (MML)<br>Gateway Feature | 1    |         |   | X | X |   |   |   |
| 365-301-661                                  | DACS II (PDS)                    | 1    |         |   | X | X |   |   |   |
| 365-301-662                                  | DACS II (MML)                    | 1    |         |   | X | X |   |   |   |
| 365-301-661AI                                | DACS II (PDS) 2.048<br>Mb/s      | 1    |         |   | X | X |   |   |   |
| 365-301-662AI                                | DACS II (MML) 2.048<br>Mb/s      | 1    |         |   | X | X |   |   |   |
| 365-301-663                                  | DACS II (PDS)                    | 1    |         |   |   |   | X |   |   |
| 365-301-663AI                                | DACS II (PDS) 2.048<br>Mb/s      | 1    |         |   |   |   | X |   |   |
| 365-301-664                                  | DACS II (MML)                    | 1    |         |   |   |   | X |   |   |
| 365-301-664AI                                | DACS II (MML) 2.048<br>Mb/s      | 1    |         |   |   |   | X |   |   |

| <b>Command and Message Manuals (Contd)</b> |                        |             |                |          |          |          |          |          |          |
|--------------------------------------------|------------------------|-------------|----------------|----------|----------|----------|----------|----------|----------|
| <b>Document #</b>                          | <b>Subject</b>         | <b>Iss.</b> | <b>Release</b> |          |          |          |          |          |          |
|                                            |                        |             | <b>1</b>       | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>7</b> |
| 365-352-002                                | DACS II PDS 24 Channel | 1           |                |          |          | X        | X        |          |          |
| 365-352-012                                | DACS II MML 24 Channel | 1           |                |          |          | X        | X        |          |          |
| 365-352-022                                | DACS II PDS 2.048 Mb/s | 1           |                |          |          | X        | X        |          |          |
| 365-352-032                                | DACS II MML 2.048 Mb/s | 1           |                |          |          | X        | X        |          |          |
| 365-353-002                                | DACS II PDS 24 Channel | 1           |                |          |          |          |          | X        |          |
| 365-353-012                                | DACS II MML 24 Channel | 1           |                |          |          |          |          | X        |          |
| 365-353-022                                | DACS II PDS 2.048 Mb/s | 1           |                |          |          |          |          | X        |          |
| 365-353-032                                | DACS II MML 2.048 Mb/s | 1           |                |          |          |          |          | X        |          |
| 365-353-052                                | DACS II PDS 24 Channel | 1           |                |          |          |          |          |          | X        |
| 365-353-062                                | DACS II MML 24 Channel | 1           |                |          |          |          |          |          | X        |
| 365-353-072                                | DACS II PDS 2.048 Mb/s | 1           |                |          |          |          |          |          | X        |
| 365-353-082                                | DACS II MML 2.048 Mb/s | 1           |                |          |          |          |          |          | X        |

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## **Quick Reference Guides**

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These guides contain frequently used commands organized into categories of functions, tables and illustrations of cross-connections, a summary of corrective action for frame audit messages, and for PDS, the meanings of the command denial condition codes. The guides are intended to support the experienced user and to serve as a handy reference for commands. Different guides cover two feature set: 2.048 Mb/s alone or subrate SLC<sup>®</sup> carrier, DS1, DS3, and clear-DS1. Both MML and PDS versions are available for each feature set.

The following table lists each Quick Reference Guide by select code, title, issue, and applicable software release.

| Quick Reference Guide |                               |      |         |   |   |   |   |   |   |
|-----------------------|-------------------------------|------|---------|---|---|---|---|---|---|
| Document #            | Subject                       | Iss. | Release |   |   |   |   |   |   |
|                       |                               |      | 1       | 2 | 3 | 4 | 5 | 6 | 7 |
| 365-301-602           | DACS II Quick Reference Guide | 1    | X       |   |   |   |   |   |   |
| 365-301-607           | DACS II PDS                   | 1    |         | X |   |   |   |   |   |
| 365-301-608           | DACS II MML                   | 1    |         | X |   |   |   |   |   |
| 365-301-625           | DACS II (PDS) 24 Channel      | 1    |         |   | X |   |   |   |   |
|                       |                               | 2    |         |   | X | X |   |   |   |
|                       |                               | 3    |         |   |   |   | X |   |   |
| 365-301-626           | DACS II (MML) 24 Channel      | 1    |         |   | X |   |   |   |   |
|                       |                               | 2    |         |   | X | X |   |   |   |
|                       |                               | 3    |         |   |   |   | X |   |   |
| 365-301-625AI         | DACS II (PDS) 30 Channel      | 1    |         |   | X | X |   |   |   |
|                       |                               | 2    |         |   |   |   | X |   |   |
| 365-301-626AI         | DACS II (MML) 30 Channel      | 1    |         |   | X |   |   |   |   |
|                       |                               | 2    |         |   | X | X |   |   |   |
|                       |                               | 3    |         |   |   |   | X |   |   |
| 365-352-003           | DACS II PDS 24 Channel        | 1    |         |   |   | X | X |   |   |
| 365-352-013           | DACS II MML 24 Channel        | 1    |         |   |   | X | X |   |   |
| 365-352-023           | DACS II PDS 2.048 Mb/s        | 1    |         |   |   | X | X |   |   |
| 365-352-033           | DACS II MML 2.048 Mb/s        | 1    |         |   |   | X | X |   |   |
| 365-353-003           | DACS II PDS 24 Channel        | 1    |         |   |   |   |   | X |   |
| 365-353-013           | DACS II MML 24 Channel        | 1    |         |   |   |   |   | X |   |
| 365-353-023           | DACS II PDS 2.048 Mb/s        | 1    |         |   |   |   |   | X |   |
| 365-353-033           | DACS II MML 2.048 Mb/s        | 1    |         |   |   |   |   | X |   |

| <b>Quick Reference Guide (Contd)</b> |                        |             |                |          |          |          |          |          |
|--------------------------------------|------------------------|-------------|----------------|----------|----------|----------|----------|----------|
| <b>Document #</b>                    | <b>Subject</b>         | <b>Iss.</b> | <b>Release</b> |          |          |          |          |          |
|                                      |                        |             | <b>1</b>       | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |
| 365-353-053                          | DACS II PDS 24 Channel | 1           |                |          |          |          |          | X        |
| 365-353-063                          | DACS II MML 24 Channel | 1           |                |          |          |          |          | X        |
| 365-353-073                          | DACS II PDS 2.048 Mb/s | 1           |                |          |          |          |          | X        |
| 365-353-083                          | DACS II MML 2.048 Mb/s | 1           |                |          |          |          |          | X        |

## Customer Information Releases

Customer Information Releases (CIRs) are designed both to assist sales personnel and as a vehicle to get new feature information to customers.

The following table lists CIRs by number, issue and title.

| Customer Information Releases |      |                                                                                                |
|-------------------------------|------|------------------------------------------------------------------------------------------------|
| CIR No.                       | Iss. | Title                                                                                          |
| 365-099-031NP                 | 2    | Digital Access and Cross-Connect System II                                                     |
| 365-099-032NP                 | 1    | Multiple DACS Complex                                                                          |
| 365-099-053TS                 | 1    | DACS II, Technical Specification                                                               |
| 365-099-055TD                 | 1    | DACS II, Release 2 Features                                                                    |
| 365-099-059TD                 | 1    | DACS II, Stratum 2 Clock                                                                       |
| 365-099-091NP                 | 1    | DACS II, Release 2 Features                                                                    |
| 365-099-093TD                 | 1    | DACS II, Release 3 Features                                                                    |
| 365-099-095IR                 | 1    | DACS II Communication Interfaces<br>Circuit Pack Ordering Information                          |
| 365-099-098IR                 | 1    | New Dacs II Dual Digroup Card<br>Announcement and Ordering<br>Information                      |
| 365-099-100MA                 | 1    | Normal Tape Operations for the DACS<br>II, DACS III-2000, and DACS IV-2000<br>Systems          |
| 365-099-105TD                 | 1    | DACS II Release 4 Technical<br>Description                                                     |
| 365-099-111TD                 | 1    | DACS II Release 5.0 Technical<br>Description                                                   |
| 365-099-123IR                 | 1    | UL Listed DACS II Digital Access and<br>Cross-Connect System                                   |
| 365-099-126TS                 | 1    | Digital Access and Cross-Connect<br>System II (DACS II) Release 5.0<br>Technical Specification |

| Customer Information Releases ( <i>Contd</i> ) |      |                                             |
|------------------------------------------------|------|---------------------------------------------|
| CIR No.                                        | Iss. | Title                                       |
| 365-099-129TD                                  | 1    | DACS II Release 6.0 Technical Description   |
| 365-099-130TS                                  | 1    | DACS II Release 6.0 Technical Specification |

## Glossary

Note: Some keywords are used in a generic manner by DACS II. For example, CCN also represents ECCN. Some other keywords used in this manner are: MIU and EMIU, MXR and EMXR, and FTU and IFTU.

| TERM    | MEANING                         |
|---------|---------------------------------|
| ABT     | Abort                           |
| ACO     | Alarm Cutoff                    |
| ACTVERB | Action Verb                     |
| AIS     | Alarm Indication Signal         |
| ALM     | Alarm                           |
| ALMDET  | Alarm Detected                  |
| ALW     | Allowed                         |
| ARG     | Argument                        |
| ARGEND  | Argument End                    |
| ASGN    | Assigned                        |
| ATP     | All Tests Passed                |
| ATTR    | Attribute                       |
| AUD     | Audit                           |
| BADVERB | Bad Verb                        |
| BBL     | Backbone Leg                    |
| BDCST   | Broadcast                       |
| BER     | Bit Error Rate                  |
| BKUP    | Backup                          |
| BM      | Backup Memory                   |
| BMTR    | Backup Memory Transfer          |
| BRDIS   | Broadcast Disconnect            |
| BRDLEG  | Broadcast Disconnect Leg        |
| BX      | Bus Extender                    |
| BDIS    | Broadcast Disconnect            |
| CAS     | Channel Associated Signaling    |
| CATP    | Conditional All Tests Passed    |
| CCB     | Cross-Connect Buffer            |
| CCN     | Cross-Connect Network           |
| CCNI    | Cross-Connect Network Interface |



| TERM     | MEANING                                               |
|----------|-------------------------------------------------------|
| CEF      | Capacity Expansion Frame                              |
| CFA      | Carrier Failure Alarm                                 |
| CFR      | Configure                                             |
| CFT      | Craft                                                 |
| CGA      | Carrier Group Alarm                                   |
| CHAN     | Channel                                               |
| CHG      | Change                                                |
| CHGIE    | Change Input Error                                    |
| CI       | Communications Interface                              |
| CIRESET  | Communications Interface Reset                        |
| CL       | Circuit Layout                                        |
| CLR      | Clear                                                 |
| CMD      | Command                                               |
| CMAP     | Channel Map                                           |
| CNFRG    | Configure                                             |
| COFA     | Change-Of-Frame Alignment                             |
| COMPLD   | An input command has been completed.                  |
| COND     | Condition                                             |
| CONFER   | Conference Error                                      |
| CONN     | Connectivity                                          |
| CONN CRS | Cross Connect                                         |
| CONV     | The circuit has been converted to a broadcast circuit |
| CPR      | C-Bit Processor                                       |
| CRO      | Clock Reference Oscillator                            |
| CRS      | Two-Way Cross-Connection                              |
| CRS1     | One-Way Cross Connection                              |
| CRTE     | Create                                                |
| CUS      | Customer Control Flag                                 |
| CW       | Conference Width                                      |
| DACS     | Digital Access and Cross-Connect System               |
| DACS-OSS | DACS Operations Support System                        |
| DC       | Digroup Circuit                                       |
| DCC      | Disconnect Code                                       |
| DCPT     | Decision Point                                        |
| DCTP     | Digroup Circuit for Test Ports                        |
| DDC      | Dual Digroup Circuit                                  |
| DENY     | An input command has been denied                      |
| DGN      | Diagnose                                              |
| DISC     | Disconnect                                            |
| DLT      | Delete                                                |
| DMA      | Deferred Maintenance Alarm                            |
| DMAP     | Digroup Map                                           |
| DMATE    | Duplex Mate                                           |
| DMB      | Digital Multipoint Bridge                             |
| DOM      | Digital Office Manager                                |

| TERM    | MEANING                                |
|---------|----------------------------------------|
| DP      | Digital Signal Processing              |
| DRU     | DACS Remote Unit                       |
| DS      | Digital Signal                         |
| DSP     | Digital Signal Processor               |
| DSPI    | Digital Signal Processing Interface    |
| DSPU    | Digital Signal Processing Unit         |
| EBX     | Expanded Bus Extender                  |
| ECCN    | Expanded Cross-Connect Network         |
| ECI     | Enhanced Communications Interface      |
| ED      | Edit                                   |
| EER     | Excessive Error Rate                   |
| ENT     | Enter                                  |
| ENTYERR | Entity Error                           |
| EOM     | End Of Message                         |
| EOP     | End Of Part                            |
| EQL     | Equalization                           |
| EQPD    | Equipped                               |
| EQPL    | Equipment Location                     |
| EQPT    | Equipment                              |
| ER      | Error Rate                             |
| ERCL    | Error Class                            |
| ERS     | Errored Seconds                        |
| ES      | Echo Suppression                       |
| ESR     | Error Source Register                  |
| EVT     | Event                                  |
| EXDB    | External Data Base                     |
| EXJ     | Excessive Jitter                       |
| FAC     | Facility                               |
| FAS     | Frame Alignment Signal                 |
| FAST    | Facility Alarm, Surveillance, and Test |
| FC      | Format Converter                       |
| FDL     | Facility Data Link Channel             |
| FPKG    | Feature Package                        |
| FT      | Facility Terminating (type)            |
| FTM     | Facility Terminating Module            |
| FTMI    | Facility Terminating Module Interface  |
| FTU     | Facility Terminating Unit              |
| GIW     | Growth Insertion Word                  |
| HUB     | Hubbing Mode (Test Access)             |
| HHMMSS  | Hours, Minutes, Seconds                |
| HW      | Hardware                               |

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| TERM  | MEANING                                           |
|-------|---------------------------------------------------|
| ID    | User Identification                               |
| IDLD  | Idled                                             |
| IFTU  | Integrated Facility Terminating Unit              |
| INACT | Inactive                                          |
| INCL  | Inclusive                                         |
| INERR | Input Error                                       |
| INH   | Inhibit                                           |
| INIT  | Initialize                                        |
| IW    | Insertion Word                                    |
| KB    | Kilobits                                          |
| LAN   | Local Area Network                                |
| LANG  | Language (PDS or MML)                             |
| LEN   | Loss of Energy                                    |
| LF    | Line Feed                                         |
| LFA   | Loss of Frame Alignment                           |
| LGN   | Log in                                            |
| LGT   | Log Out (Off)                                     |
| LN    | Line                                              |
| LOC   | Location                                          |
| LOCL  | Local                                             |
| LOK   | Link OK                                           |
| LOS   | Loss of Signal                                    |
| LPBK  | Loopback                                          |
| LPD   | Looped                                            |
| LTYPE | Link Type                                         |
| MACRO | An Executable List of Functions (machine routine) |
| MAJ   | Major Framing Error Rate                          |
| MAP   | An Executable List of Cross-Connect Functions     |
| MB    | Multipoint Bridge                                 |
| MBER  | Minor Bit Error Rate                              |
| MC    | Main Controller                                   |
| MCOFF | Maintenance Condition Off                         |
| MCON  | Maintenance Condition On                          |
| MCOND | Maintenance Condition                             |
| MDNT  | Midnight                                          |
| MHZ   | Megahertz                                         |
| MIN   | Minor Framing Error Rate                          |
| MJ    | Major (Alarm)                                     |
| MJU   | Multipoint Junction Unit                          |
| MLD   | Message Language Description                      |
| MML   | Man-Machine Language                              |
| MN    | Minor (Alarm)                                     |
| MODE  | Operating Mode (Fast, Holdover, Normal, etc.)     |

| TERM      | MEANING                                    |
|-----------|--------------------------------------------|
| MON       | Monitor                                    |
| MP        | Main Processor                             |
| MPDBASE   | Main Processor Data Base                   |
| MPDIS     | Multipoint Disconnect                      |
| MPM       | Multipoint Mode                            |
| MSG       | Message                                    |
| MTC       | Maintenance                                |
| MUX       | Multiplex                                  |
| NA        | Not Applicable                             |
| NAM       | No A-law to $\mu$ -law Conversion          |
| NCC       | Not Connected Code                         |
| NE        | Network Equipment (Frame)                  |
| NEW-STATE | New Termination State                      |
| NFW       | Not Frame Word                             |
| NG        | Noise Guard                                |
| NMON      | Not Monitor                                |
| NOBBL     | No Backbone Leg                            |
| NORM      | Two-Way Cross-Connection (Default)         |
| NP        | Network Processing                         |
| NPC       | Network Processing Circuit                 |
| NPCOP     | NPC Option                                 |
| NPCTP     | NPC Test Port                              |
| NSA       | Nonsignaling Associated                    |
| NSO       | Not in Sequence Order                      |
| NSUP      | Not Supported in Equipment Hierarchy       |
| NTLA      | Not in TLA Mode                            |
| NTR       | No Transmit                                |
| NUTST     | Not Under Test                             |
| OOF       | Out-Of-Frame                               |
| OOS       | Out-Of-Service                             |
| OPR       | Operator                                   |
| OPT       | Option                                     |
| OS        | Operations System                          |
| PASSWD    | Password                                   |
| PBA       | Primary Block Associated                   |
| PCB       | Process Control Block                      |
| PDS       | Program Documentation Standards (Language) |
| PHS       | Phase Step                                 |
| PIC       | Replica, as in MACRO Feature               |
| PRMTR     | Parameters                                 |
| PROG      | Program                                    |
| PRVG      | Provisioning                               |
| PTCOL     | Protocol                                   |

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| TERM   | MEANING                             |
|--------|-------------------------------------|
| PTLA   | Presently in TLA                    |
| PWR    | Power                               |
| QRY    | Query                               |
| QTEND  | Quit End                            |
| RBER   | Remote Bit Error Rate               |
| RDLD   | Red Lined Circuit                   |
| RDM    | Read Memory                         |
| REFMAP | Reference MAP                       |
| RMOFF  | Restricted Maintenance Off          |
| RMON   | Restricted Maintenance On           |
| RNG    | Range                               |
| RNGIE  | Range Input Error                   |
| ROM    | Read Only Memory                    |
| RPATH  | Return Path                         |
| RPT    | Repeat                              |
| RTP    | Remote Test Port                    |
| RTS    | Ready-To-Send                       |
| RTSI   | Receive Time Slot Interchange       |
| RTV    | Real Time Violation                 |
| SARTS  | Switched Access Remote Test System  |
| SCCS   | Switching Center Control System     |
| SCCSAI | Snider Link                         |
| SCR    | Screening                           |
| SEQ    | Sequence                            |
| SEQERR | Sequence Error                      |
| SERS   | Severe Errored Seconds              |
| SETOP  | Set Option                          |
| SFDT   | Signaling Freeze Delay Time         |
| SFW    | Software                            |
| SIB    | Software Identification Block       |
| Snider | An Administration Link              |
| SPLT   | Split                               |
| SSC    | Secondary Storage Controller        |
| SSMS   | Special Services Management System  |
| SSP    | Select Synchronization Port         |
| STA    | Status or State                     |
| STF    | Some Tests Failed                   |
| STR    | Status Register                     |
| SWCH   | Switch                              |
| SYM    | Symmetrical                         |
| SYNC   | Synchronizer                        |
| TABS   | Telemetry Asynchronous Block Serial |

| TERM  | MEANING                                         |
|-------|-------------------------------------------------|
| TACC  | Test Access                                     |
| TAD   | Test Access Digroup                             |
| TASC  | Telemetry Alarm Surveillance and Control System |
| TC    | Trunk Conditioning                              |
| TCAS  | T-Carrier Administration System                 |
| TCC   | Trunk conditioning Code                         |
| TDS2  | Timing Distributor Sine Wave (2.048 MHz)        |
| TE    | Timing Extractor For Macro                      |
| TERM  | Two-Way Terminated Cross-Connections            |
| TIF   | Tandem Interface Frame                          |
| TLA   | Terminate and Leave Activate                    |
| TLI   | Timing Link Interface                           |
| TLP   | Transmission Level Point                        |
| TLR   | Terminate and Leave Release                     |
| TN    | Transaction                                     |
| TOD   | Time-of-Day                                     |
| TOTAL | Total Number of Lines in a Macro                |
| TOX   | Multiple (X) TOs                                |
| TP    | Test Port                                       |
| TPMAX | Maximum Number of Test Ports                    |
| TPR   | Test Port Release                               |
| TPS   | Test Ports                                      |
| TRANS | Transient                                       |
| TRB   | Trouble Code                                    |
| TRSP  | Transparent                                     |
| TS    | Time Slot                                       |
| TSI   | Time Slot Interchange                           |
| TTSI  | Transmit Time Slot Interchange                  |
| UASGN | Unassigned                                      |
| UBX   | Unit Bus Extender                               |
| UC    | Unit Controller                                 |
| UCR   | Unit Clock Receiver                             |
| UD    | Unit Controller for a DSPU                      |
| UEQD  | Unequipped                                      |
| UF    | Unit Controller for an FTU, a DSPU, or a DS3U.  |
| UID   | Unique Identifier                               |
| UMC   | Unassigned Multiplex Code                       |

| TERM  | MEANING            |
|-------|--------------------|
| UMP   | Unmapped URC       |
| URC   | Unit Reply Circuit |
| UTL   | Utility            |
| UTST  | Under Test         |
| VERSN | Version            |
| XC    | Cross-Connect      |

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38501 CHG, MACRO, MAP, SPACE  
38601 CHG, UNIT, DS3, BERM, BERT, LBO, TYPE  
38611 CHG, DS3UNPROTALM, ON, OFF

39001 LOGIN, USER, PASSWD  
39101 LOGOFF, USER, LINK, INCL  
39201 ACT, MAP, CLR, INCL  
39301 EXC, MACRO  
39311 STOP, MACRO, LINK  
39401 SW, NPC, RT, PSW, USW, ALW, INH, FRC, INCL  
41001 DGN, MC, CFT, X  
41004 DGN, IN, PROGRESS  
41011 DGN, LINK, CFT, X  
41021 DGN, MP, CFT, X  
41031 DGN, CI, CFT, X  
41051 DGN, PMEM, SMEM, CFT, X, EXCT, DBASE, VERIFY  
41101 DGN, SYNC  
41111 DGN, SYNC, TLI, CRO  
41121 DGN, SYNC, TLI, SSP  
41201 DGN, CCNI, CFT, X  
41211 DGN, CCB, CFT, X  
41221 DGN, TSI, CFT, X  
41232 DGN, TSIS, CCN, UNIT, CONN  
41241 DGN, TSIS, CCN, ALL  
41251 DGN, CCI, CFT, X  
41261 DGN, ETSI, CFT, X  
41271 DGN, ETSIS, ECCN, ALL  
41311 DGN, UNIT, UC, CFT, X  
41321 DGN, UNIT, FTMI, CFT, X  
41331 DGN, UNIT, FC, CFT, X  
41341 DGN, UNIT, DSPI, CFT, X  
41351 DGN, NPC, SIDE, CFT, X  
41361 DGN, NPC  
41401 DGN, UNIT, FLI, CFT, X  
41411 DGN, UNIT, FMT, CFT, X  
41421 DGN, UNIT, MXR, DEV, CFT, X  
41431 DGN, UNIT, MIU, CFT, X  
51001 UTL, QRY, MEMSTAT  
51011 UTL, TOD, CFA, FAC, X, PRIM, MONDAT  
51021 UTL, DATE, FORMAT, INT  
51031 UTL, QRY, DATE  
51041 UTL, QRY, WHO  
51071 UTL, QRY, TOD, CFA  
51081 UTL, RCY, PASSWD  
51091 UTL, QRY, CNFGR  
51101 UTL, INIT, ALM  
51111 UTL, ACO  
51121 UTL, QRY, FPKG  
51131 UTL, QRY, SQN  
51141 UTL, SCHED, PMREPT, NPC, RI, ST, NI, LV, LOCN  
51151 UTL, QRY, PMSCHED, NPC, ALL

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51161 INH, PMREPT, NPC, ALL  
51171 ALW, PMREPT, NPC, ALL  
51501 UTL, QRY, HUBID  
51511 UTL, QRY, ECLOC  
52011 UTL, QRY, CMAP  
52031 UTL, QRY, DMAP  
52041 UTL, QRY, TO  
52051 UTL, QRY, FROM  
52061 UTL, QRY, TO  
52071 UTL, QRY, FROM  
52081 UTL, QRY, ROLL, DS0, NPC, ALL, UNIT  
52091 UTL, QRY, ROLL, DS1, NPC, ALL, UNIT  
52101 UTL, QRY, BCAST, ALL  
52111 UTL, QRY, BCAST, FROM  
52121 UTL, QRY, BCAST, FROM  
52201 UTL, QRY, MARK  
52211 UTL, QRY, MARK  
52311 UTL, QRY, RTMAP, DLMAP  
52321 UTL, QRY, STATE, SCDG, NPC, RT, DL, ALL  
52501 UTL, QRY, SECH, TO  
52511 UTL, QRY, SCON, CH, TO  
52521 UTL, QRY, SCON, TO  
52531 UTL, QRY, SRHDW, TO  
52581 UTL, QRY, LOAD, NPC, TOTAL  
52601 UTL, QRY, SIGST  
53001 UTL, QRY, SYNC, TYPE  
53011 UTL, QRY, EQD, UNITS  
53021 UTL, QRY, EQD, TSIS  
53022 UTL, QRY, EQD, ETSIS  
53031 UTL, QRY, EQD, CONN  
53041 UTL, QRY, EQD, NPCS, TOTAL, UNIT  
53051 UTL, QRY, OPT, TYPE, ALL, NPCS  
53061 UTL, QRY, TPS  
53071 UTL, QRY, UNIT, FTMI, EQL  
53081 UTL, QRY, TGS  
53091 UTL, QRY, NPCTG  
53101 UTL, QRY, ALL, UNIT  
53103 UTL, QRY, PEST, FAIL, OOS, UNIT  
53104 UTL, QRY, ALL, COMMON  
53105 UTL, QRY, PEST, FAIL, OOS, COMMON  
53108 UTL, QRY, EQD, UNIT  
53109 UTL, QRY, EQD, COMMON  
53111 UTL, QRY, ALMS  
53121 UTL, QRY, CS, NPC  
53131 UTL, QRY, LPBK, NPC  
53141 UTL, QRY, ALMS, RT, DL  
53151 UTL, QRY, ALMS, DBASE

53161 UTL, QRY, TSIG, NPC  
53201 UTL, QRY, EQD, MIUS  
53211 UTL, QRY, EQD, MXRS  
53221 UTL, QRY, DS3, BERMT, UNIT  
53231 UTL, QRY, DS3, LBO  
54001 UTL, QRY, SCR, LINK, USER, LINKS, USERS  
54011 UTL, QRY, LOG, ALL  
54101 UTL, QRY, LIST, MAP, USER  
54111 UTL, QRY, NPC, MAP, USER  
54121 UTL, QRY, MACRO, USER  
54131 UTL, QRY, LIST, MACRO, USER  
54201 UTL, QRY, MAP, ATTR, ALL, USER, MAPNM  
54211 UTL, QRY, MACRO, ATTR, USER, ALL  
54221 UTL, QRY, MACRO, MAP, SPACE, USER, ALL  
54340 UTL, QRY, STATE, ACO  
55011 UTL, QRY, ERR, SWER, HWER, INT, DATE, TOD, TN  
55021 UTL, RCY, COND, IN, PROGRESS  
55111 UTL, QRY, ESR, MP  
55113 UTL, QRY, STR, LINK  
55181 UTL, QRY, XCSB, UNIT  
55191 UTL, QRY, STR, XC  
55201 UTL, QRY, STR, SYNC  
55311 UTL, QRY, STR, SYNC, TLI  
55321 UTL, QRY, STR, SYNC, TLI, SSP  
55401 UTL, QRY, ESR, CCN  
55411 UTL, QRY, ESR, ECCN  
55501 UTL, QRY, ESR, UNIT  
55511 UTL, QRY, ESR, UNIT, FTMI  
55521 UTL, QRY, ESR, UNIT, FC  
55531 UTL, QRY, ESR, UNIT, DSPI  
55601 UTL, QRY, ESR, NPC, SIDE  
55701 UTL, BMTR, FROM, TO, EXCT, INCL  
55703 IN, PROGRESS  
55704 TABS, IN, PROGRESS  
55705 TABS  
55711 ABT  
55731 UTL, UPGRD  
55801 UTL, QRY, ESR, UNIT, FLI  
55811 UTL, QRY, ESR, UNIT, FMT  
55821 UTL, QRY, ESR, UNIT, MXR  
55831 UTL, QRY, ESR, UNIT, MIU  
56001 UTL, CLR, NPC, RT, DL  
56011 UTL, CLR, ALL  
56021 UTL, QRY, ALMOPT, NPC, AIS  
56031 UTL, QRY, ALL  
56041 UTL, QRY, NPC, RT, DL  
56051 UTL, CLR, NPC, PARAMS

56061 UTL, CLR, ERR, HWER, SWER  
56071 UTL, CLR, NPC, ALL, AI, LOCN, MONDAT, MONTIM  
56091 UTL, QRY, NPC, ALL, AI, LV, LOCN, MONDAT  
56301 UTL, QRY, STATE, SYNC  
56311 UTL, QRY, STATE, NPC  
56314 UTL, QRY, STATE, NPC  
56331 UTL, QRY, ALM, DS3  
56361 UTL, QRY, STATE, UNIT, DS3  
56401 UTL, LOC  
56501 UTL, QRY, SROOF, TO, ALL  
56511 UTL, QRY, PSTATE, UNIT  
58001 UTL, BOOT, FRAME, CLR  
58011 MC, MCOND  
61011 REPT, PM, NPC, PARAM, COUNT, VLDTY, LOCN, AI  
65011 AR01, MISC, ALM, CGA, LOS  
65021 AR01, MISC, ALM, IDLD, CGA, LOS  
65031 ALM, MJ, MN, INFO, NPC  
65041 ALM, IDLD, NPC  
65051 ALM, RESET, DATE, TOD, FORMAT, MDY, DMY  
65053 BOOT, FAILED, BAD, DEVICE  
65054 ALM, MJ, IDLD, CCN, OOS  
65055 ALM, MJ, IDLD, ECCN, OOS  
65056 ALM, MN, IDLD, SMEM  
65061 RPT, T, NPC, LOCN, AI, COUNT, THLEV  
65071 ACO, ACTIVE  
65131 SC, ALM, CGA, DLF, INH, MRV, MSW, PSW, RT, DL  
65141 SC, ALM, RT, DL, FE  
65151 SC, ALM, DPLX, SYNC, CCB, CCNI, CCI, TSI, ETSI  
65161 SC, ALM, MC, UC, FTMI, DSPI, NE  
65171 SC, ALM, COMP, RT, INDX, LBRV, AB, CD, P, ALP  
66001 ALM, UNIT, DS3  
66011 ALM, IDLD, UNIT, DS3  
66021 ALM, MN, IDLD, DS3UNPROTALM, DS3U  
81001 AUD, QRY, CFA, CGA, LOS  
81002 AUD, QRY, CFA, CGA, LOS  
81003 AUD, QRY, BER, ALL, FTU, NPC, TOT, EOM, DS3U  
81004 AUD, QRY, CFA, CGA, LOS  
81005 AUD, QRY, BER, ALL, NPC, TOT  
81006 AUD, PARAMS  
82001 FRADTS, DGN, DEV  
82002 FRADTS, FRCMP  
82003 FRADTS, BMCMP  
82004 FRADTS, MC, DGN

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## Summary of Input Commands

# 4

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## **Summary of Input Commands**

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### **Summary of Input Commands**

This section provides a summary of the DACS II Release 7.0 input commands. The commands are presented in an alphabetical and numerical order.

## Alphabetic Command Summary

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[I.55711]

**ABT!**

[I.14001]

**ACON:FRM xy,SEQ ww:OLD [s]abcddd,NEW [t]ghijjj[,INCL]!**

[I.14001]

**ACON:FRM xy,SEQ ww:OLD uvmnpddd,NEW wxkqrjjj[,INCL]!**

[I.39201]

**ACT:FRM xy,SEQ ww:MAP <map name>[,CLR][,INCL]!**

[I.36007]

**ADD:FRM xy,SEQ ww:LINK j,APPL {ASCS|ASCD|PM}[,L2AD aa]\  
[,POLL ttt]!**

[I.36003]

**ADD:FRM xy,SEQ ww:LINK j[,K b][,T1 ee][,T3 ggg][,N2 aa]\  
[,FRMAD {A|B}]!**

[I.36001]

**ADD:FRM xy,SEQ ww:LINK j,PTCOL {S|X|T|M}[,BAUD bb][,ALM k]\  
[,BS e][,ENQ q][,XON x][,INIT]!**

[I.36001]

**ADD:FRM xy,SEQ ww:LINK j,PTCOL S[,BAUD bb][,ALM k]\  
[,BS e][,ENQ q][,XON x][,INIT]!**

[I.36001]

**ADD:FRM xy,SEQ ww:LINK j,PTCOL X[,ALM k][,INIT]!**

[I.36001]

**ADD:FRM xy,SEQ ww:LINK j,PTCOL T[,BAUD bb][,ALM k][,INIT]!**

[I.36001]

**ADD:FRM xy,SEQ ww:LINK j,PTCOL M[,ALM k][,INIT]!**

[I.36005]

**ADD:FRM xy,SEQ ww:LINK j[mm][,W c][,P ddd][,T20 iii]\  
[,T22 jjj][,T23 kkk][,T25 lll][,T26 mmm][,R20 nn]\  
[,R22 p][,R23 qq][,R25 r][,DBIT v][,VC(ppss,gghh)]!**

[I.36021]

**ADD:FRM xy,SEQ ww:NPC {[s]abc-[t]def|[s]abc[, [s]ghi]...\  
[, [t]def]]}!**



[I.36021]  
ADD:FRM xy,SEQ ww:NPC {uvmnp-wxkqr|uvmnp[,edfgh]...\  
[,wxkqr]}!

[I.36201]  
ADD:FRM xy,SEQ ww:{RT|DL} ffff,MD g[g]\  
[,DGA [s]aaa][,DGB [s]bbb][,DGC [s]ccc][,DGD [s]ddd]\  
[,DGP[s]ppp][,{sss|NDL|RTF}]!

[I.36201]  
ADD:FRM xy,SEQ ww:{RT|DL} ffff,MD g[g][,DGA uvjab]\  
[,DGB uvkcd][,DGC uvlef][,DGD uvmgh][,DGP uvjpr]\  
[,{sss|NDL|RTF}]!

[I.36103]  
ADD:FRM xy,SEQ ww:{USER <user id>|LINK j[mm][,INCL]|ALL}\  
[,LANG {M|P|F}][,NPCAD {E|X|H}][,LEV(a,b,c,d,e,f)]\  
[,{RMON|RMOFF}][,RLK {A|I}][,INIT]!

[I.36101]  
ADD:FRM xy,SEQ ww:USER <user id>[,NEW][,PASSWD <user password>]!

[I.36101]  
ADD:FRM xy,SEQ ww:USER <user id>[,NEW]!

[I.51171]  
ALW:FRM xy,SEQ ww:PMREPT,{NPC [s]abc[-[t]def]|ALL}!

[I.51171]  
ALW:FRM xy,SEQ ww:PMREPT,{NPC uvmnp[-wxkqr]|ALL}!

[I.35301]  
ALWSW:FRM xy,SEQ ww:UNIT [q]q,MMFG c[-d],{TOPRTN|TOSRVC}!

[I.19041]  
APPEND[:FRM xy,SEQ ww:{<line number>|END}]!

[I.81001]  
AUD:FRM xy,SEQ ww:QRY,{CFA|CGA|LOS}!

[I.81001]  
AUD:[FRM xy,SEQ ww]:QRY,{CFA|CGA|LOS}!

[I.81001]  
AUD:[FRM xy,SEQ ww]:QRY,{CFA|CGA|LOS}!

[I.13002]

**BCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\**  
**,<tc>[, {NTR|LPD|CONV}][, {CUS|INCL}][,RDC]!**

[I.13002]

**BCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\**  
**,<tc>[, {NTR|LPD|CONV}][, {CUS|INCL}][,RDC]!**

[I.13021]

**BCON:FRM xy,SEQ ww:FROM [s]abc,TO [t]def[,RDC][, {CUS|INCL}]\**  
**[, {NTR|LPD|CONV}]!**

[I.13021]

**BCON:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][, {CUS|INCL}]\**  
**[, {NTR|LPD|CONV}]!**

[I.13001]

**BCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],\**  
**TOX ([t]ghijjj[, [t]klmnn, ...]),<tc>[, {NTR|LPD|CONV}]**  
**[, {CUS|INCL}][,RDC]!**

[I.13001]

**BCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],\**  
**TOX (wxkqrjjj[,edhfgnn, ...]),<tc>[, {NTR|LPD|CONV}]\**  
**[, {CUS|INCL}][,RDC]!**

[I.13011]

**BCON:FRM xy,SEQ ww:FROM [s]abc,TOX ([t]def[, [u]ghi]\**  
**[, [v]jkl][...])[,RDC][, {CUS|INCL}][, {NTR|LPD|CONV}]!**

[I.13011]

**BCON:FRM xy,SEQ ww:FROM uvmnp,TOX (wxkqr[,edfhg]\**  
**[,stmno][, ...])[,RDC][, {CUS|INCL}][, {NTR|LPD|CONV}]!**

[I.15201]

**BDIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\**  
**[,CONV][,OOS][,DCC][,INCL]!**

[I.15201]

**BDIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\**  
**[,CONV][,OOS][,DCC][,INCL]!**

[I.15231]

**BDIS:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,OOS][,INCL][,CONV]!**

[I.15231]

**BDIS:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,OOS][,INCL][,CONV]!**

[I.15211]  
**BDIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],\**  
**TOX ([t]ghijjj[, [u]klmnn . . .)] [, CONV] [, OOS] [, DCC] [, INCL] !**

[I.15211]  
**BDIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],\**  
**TOX (wxqrrjjj[, edhfgnnn, . . .)] [, CONV] [, OOS] [, DCC] [, INCL] !**

[I.15221]  
**BDIS:FRM xy,SEQ ww:FROM [s]abc,\**  
**TOX ([t]ghi[, [u]jkl] [, [v]mno][...]) [, OOS] [, INCL] [, CONV] !**

[I.15221]  
**BDIS:FRM xy,SEQ ww:FROM uvmnp,\**  
**TOX (wxqrr[, edhfg] [, opqrs][...]) [, OOS] [, INCL] [, CONV] !**

[I.35021]  
**CFR:FRM xy,SEQ ww:FRAME!**

[I.35011]  
**CFR:FRM xy,SEQ ww:SYNC a,FPLL!**

[I.35013]  
**CFR:FRM xy,SEQ ww:SYNC, {MASTER|SLAVED}!**

[I.35012]  
**CFR:FRM xy,SEQ ww:SYNC, STRATUM {STR2|STR3}!**

[I.35001]  
**CFR:FRM xy,SEQ ww:XC s[, INCL] !**

[I.38611]  
**CHG:[FRM xy,SEQ ww]:DS3UNPROTALM {ON|OFF}!**

[I.38261]  
**CHG:FRM xy,SEQ ww:ECLOC,TYPE {MJU|SRM}!**

[I.17011]  
**CHG:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[, NOT [u]rst],\**  
**{TLA|TLR} {F|T|B|A} [, INCL] !**

[I.17011]  
**CHG:FRM xy,SEQ ww:FROM uvmnp,TO wxqrr[, NOT edhfg],\**  
**{TLA|TLR} {F|T|B|A} [, INCL] !**

[I.17001]

CHG:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\  
[,NOT [u]rstvvv},{TLA|TLR} {F|T|B|L|G|A}{[,INCL]}!

[I.17001]

CHG:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\  
[,NOT edhfgvvv},{TLA|TLR} {F|T|B|L|G|A}{[,INCL]}!

[I.17002]

CHG:FRM xy,SEQ ww:FROM [s]abcddd,TO [t]ghijjj[,TLP(snn,smm)]\  
[,NG nn][,ES ee][,INCL]}!

[I.17002]

CHG:FRM xy,SEQ ww:FROM uvmnpddd,TO wxkqrjjj\  
[,TLP(snn,smm)][,NG nn][,ES ee][,INCL]}!

[I.38251]

CHG:FRM xy,SEQ ww:HUBID 0'ab!

[I.38501]

CHG:FRM xy,SEQ ww:{MACRO|MAP},SPACE sss!

[I.38281]

CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]ghi],\  
{ALMOPT|PLOPT},{AIS {INFO|MJ|MN}|PL {ENA|DSA}}!

[I.38281]

CHG:FRM xy,SEQ ww:NPC uvmnp[-wxkqr],\  
{ALMOPT|PLOPT},{AIS {INFO|MJ|MN}|PL {ENA|DSA}}!

[I.38221]

CHG:FRM xy,SEQ ww:NPC [s]abc,OPTS(rr/m[,rr/m][...])!

[I.38221]

CHG:FRM xy,SEQ ww:NPC uvmnp,OPTS(rr/m[,rr/m][...])!

[I.38241]

CHG:FRM xy,SEQ ww:{NPC [s]abc|RT ffff|DL ffff|TYPE mnxyz},\  
OPTS(rr/m[,rr/m,...])!

[I.38241]

CHG:FRM xy,SEQ ww:{NPC uvmnp|RT ffff|DL ffff|TYPE mnxyz},\  
OPTS(rr/m[,rr/m,...])!

[I.38211]

CHG:FRM xy,SEQ ww:NPC [s]abc,TYPE mnxyz[,IW X'pq[,INCL]]!

[I.38211]

**CHG:FRM xy,SEQ ww:NPC uvmnp,TYPE mnxyz[,IW X'pq[,INCL]]!**

[I.38271]

**CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]def],TYPE mnxyz[,IW X'pq[,INCL]]!**

[I.38271]

**CHG:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],TYPE mnxyz[,IW X'pq[,INCL]]!**

[I.38301]

**CHG:FRM xy,SEQ ww:PASSWD[,OLD <old password>, \**  
**NEW <new password>]!**

[I.38301]

**CHG:FRM xy,SEQ ww:PASSWD!**  
    **OLD PASSWD:** (user enters the old password)  
    **NEW PASSWD:** (user enters the new password)  
    **PASSWD:** (user re-enters the new password for verification)

[I.38351]

**CHG:FRM xy,SEQ ww:{RT|DL} ffff,TO gggg!**

[I.38481]

**CHG:FRM xy,SEQ ww:{RT|DL} ffff,{ZCS|B8ZS}!**

[I.38361]

**CHG:FRM xy,SEQ ww:RT ffff,[{sss|RTF}][,SWMN x]!**

[I.19581]

**CHG:FRM xy,SEQ ww:SCON,OLD [s]abcddd[/ff],NEW [t]ghijjj[/ll]!**

[I.19581]

**CHG:FRM xy,SEQ ww:SCON,OLD uvmnpddd[/ff],NEW wxkqrjjj[/ll]!**

[I.19591]

**CHG:FRM xy,SEQ ww:SCON,OLD [s]abcddd[/ff],NEW [t]ghijjj[/ll],\**  
**MPTM!**

[I.19591]

**CHG:FRM xy,SEQ ww:SCON,OLD uvmnpddd[/ff],NEW wxkqrjjj[/ll],\**  
**MPTM!**

[I.19501]

**CHG:FRM xy,SEQ ww:SECH,OLD [s]abcddd[-eee],NEW [t]ghijjj\**  
**[-kkk][,PCH ppp][,DCC]!**

[I.19501]

**CHG:FRM xy,SEQ ww:SECH,OLD uvmnpddd[-eee],NEW wxkqrjjj[-kkk]\**  
**[,PCH ppp][,DCC]!**

[I.38201]

**CHG:FRM xy,SEQ ww:SETOP rr,{TYPE mn|ALL},NPCOP(set1,set2,set3)!**

[I.18001]

**CHG:FRM xy,SEQ ww:SWCH,TOX([s]abcddd[, [t]ghijjj,\**  
**[u]klmnnn,...])[ ,INCL]!**

[I.18001]

**CHG:FRM xy,SEQ ww:SWCH,TOX(uvmnpddd[,wxkqrjjj,edhfgnnn,...])\**  
**[ ,INCL]!**

[I.18011]

**CHG:FRM xy,SEQ ww:SWCH,TOX([s]ghi[, [t]jkl][, [v]mno][...])\**  
**[ ,INCL]!**

[I.18011]

**CHG:FRM xy,SEQ ww:SWCH,TOX(uvmnp[,wxkqr][,edhfg][...])\**  
**[ ,INCL]!**

[I.38011]

**CHG:FRM xy,SEQ ww:SYNC,TLI m,SSP b,TYPE texyz!**

[I.38011]

**CHG:FRM xy,SEQ ww:SYNC,\**  
**TLI,SRC(i/(a,b)[,j/(c,d)[,k/(e,f)[,l/(g,h)]])!]**

[I.19551]

**CHG:FRM xy,SEQ ww:{TLA|TLR} m,TO [s]abcddd[/ff]!**

[I.19551]

**CHG:FRM xy,SEQ ww:{TLA|TLR} m,TO uvmnpddd[/ff]!**

[I.19561]

**CHG:FRM xy,SEQ ww:{TLA|TLR} m,TO [s]abcddd[/ff],MJU ssss\**  
**[,BRi]!**

[I.19561]

**CHG:FRM xy,SEQ ww:{TLA|TLR} m,TO uvmnpddd[/ff],MJU ssss\**  
**[,BRi]!**

[I.38231]

**CHG:FRM xy,SEQ ww:TYPE mnxyz,OPTS(rr/m[,rr/m][...])!**

[I.38101]  
**CHG:FRM xy,SEQ ww:UNIT q,CONN(a[,b[,c[,d[,e[,f]]]]))!**

[I.38601]  
**CHG:FRM xy,SEQ ww:UNIT [q]q,DS3 c[-d][,BERM s][,BERT t]\**  
**[,LBO <b>][,TYPE mnxyz]!**

[I.38111]  
**CHG:FRM xy,SEQ ww:UNIT [q]q,FTMI d,EQL(l,r)!**

[I.38401]  
**CHG:FRM xy,SEQ ww:{USER <user id>|LINK j[mm][,INCL]}\**  
**[,SCR n[,GR(a,b,c,d,e,f)]][, {MCON|MCOFF}][,INIT]!**

[I.31521]  
**COPY:FRM xy,SEQ ww:NPC [s]abc,TO [t]def[-[u]ghi]!**

[I.31521]  
**COPY:FRM xy,SEQ ww:NPC uvmnp,TO wxkqr[-ghikl]!**

[I.20101]  
**CTST:FRM xy,SEQ ww:<tmode>,FAD ([s]abc[, [t]def)][,AIS][,INCL]!**

[I.20101]  
**CTST:FRM xy,SEQ ww:<tmode>,FAD (uvmnp[,wxkqr)][,AIS][,INCL]!**

[I.20111]  
**CTST:FRM xy,SEQ ww:FAD ([s]abc[, [t]def])\**  
**{[,EMODE <emode>][,FMODE <fmode>}][,INCL];**

[I.20111]  
**CTST:FRM xy,SEQ ww:FAD (uvmnp[,wxkqr])\**  
**{[,EMODE <emode>][,FMODE <fmode>}][,INCL];**

[I.20001]  
**CTST:FRM xy,SEQ ww:<tmode>,FAD ([s]abc[, [t]def]),FROM [u]ghi\**  
**[,TO [v]jkl][,AIS][,INCL]!**

[I.20001]  
**CTST:FRM xy,SEQ ww:<tmode>,FAD (uvmnp[,wxkqr]),FROM eghij\**  
**[,TO jklmn][,AIS][,INCL]!**

[I.20031]  
**CTST:FRM xy,SEQ ww:HUB,FAD [s]abc,TO [t]jkl[,INCL]!**

[I.20031]  
**CTST:FRM xy,SEQ ww:HUB,FAD uvmnp,TO wxkqr[,INCL]!**

[I.20301]

**CTST:FRM xy,SEQ ww:LPBKT,FAD [s]abc[,INCL]!**

[I.20301]

**CTST:FRM xy,SEQ ww:LPBKT,FAD uvmnp[,INCL]!**

[I.20202]

**CTST:FRM xy,SEQ ww:TNR,ALL[,00S]!**

[I.20201]

**CTST:FRM xy,SEQ ww:TNR,FAD [s]abc[,00S]!**

**CTST:FRM xy,SEQ ww:TNR,FAD ([s]abc[, [t]def))[,00S]!**

[I.20201]

**CTST:FRM xy,SEQ ww:TNR,FAD uvmnp[,00S]!**

**CTST:FRM xy,SEQ ww:TNR,FAD (uvmnp[,wxkqr))[,00S]!**

[I.19051]

**DELETE[:FRM xy,SEQ ww:{<starting line>|END}[-{<ending line>\|END}]]!**

[I.41211]

**DGN:FRM xy,SEQ ww:CCB sf[,CFT X'vwxy]!**

[I.41251]

**DGN:FRM xy,SEQ ww:CCI s[,CFT X'vwxy]!**

[I.41201]

**DGN:FRM xy,SEQ ww:CCNI s[,CFT X'vwxy]!**

[I.41031]

**DGN:FRM xy,SEQ ww:CI[,CFT X'vwxy]!**

[I.41261]

**DGN:FRM xy,SEQ ww:ETSI sqq[,CFT X'vwxy]!**

[I.41271]

**DGN:FRM xy,SEQ ww:ETSI S,ECCN s,ALL!**

[I.41011]

**DGN:FRM xy,SEQ ww:LINK a[,CFT X'vwxy]!**



[I.41001]  
**DGN:FRM xy,SEQ ww:MC[,CFT X'vwxy]!**

[I.41021]  
**DGN:FRM xy,SEQ ww:MP[,CFT X'vwxy]!**

[I.41361]  
**DGN:[FRM xy,SEQ ww]:NPC [s]abc-[t]def!**

[I.41361]  
**DGN:[FRM xy,SEQ ww]:NPC uvmnp-uvkqr!**

[I.41351]  
**DGN:[FRM xy,SEQ ww]:NPC [s]abc[,SIDE s][,CFT X'vwxy]!**

[I.41351]  
**DGN:[FRM xy,SEQ ww]:NPC uvmnp[,SIDE s][,CFT X'vwxy]!**

[I.41051]  
**DGN:[FRM xy,SEQ ww]:{PMEM|SMEM}[,{CFT X'vwxy|EXCT|DBASE}][,VERIFY]!**

[I.41101]  
**DGN:FRM xy,SEQ ww:SYNC a!**

[I.41111]  
**DGN:FRM xy,SEQ ww:SYNC,TLI 3,CRO!**

[I.41121]  
**DGN:FRM xy,SEQ ww:SYNC a,TLI m[,SSP b]!**

[I.41221]  
**DGN:FRM xy,SEQ ww:TSI sft[,CFT X'vwxy]!**

[I.41241]  
**DGN:FRM xy,SEQ ww:TSIS,CCN s,ALL!**

[I.41232]  
**DGN:FRM xy,SEQ ww:TSIS,CCN s,UNIT q,\**  
**[,CONN(a[,b[,c[,d[,e[,f]]]]))]]]!**

[I.41341]  
**DGN:FRM xy,SEQ ww:UNIT [q]q,DSPI[,CFT X'vwxy]!**

[I.41331]  
**DGN:FRM xy,SEQ ww:UNIT [q]q,FC sb[,CFT X'vwxy]!**

[I.41401]

**DGN:FRM xy,SEQ ww:UNIT [q]q,FLI k[,CFT X'vwxy]!**

[I.41411]

**DGN:FRM xy,SEQ ww:UNIT [q]q,FMT s[,CFT X'vwxy]!**

[I.41321]

**DGN:FRM xy,SEQ ww:UNIT [q]q,FTMI d[,CFT X'vwxy]!**

[I.41431]

**DGN:FRM xy,SEQ ww:UNIT [q]q,MIU c[,CFT X'vwxy]!**

[I.41421]

**DGN:FRM xy,SEQ ww:UNIT [q]q,MXR c[,DEV devc[,CFT X'vwxy]]!**

[I.41311]

**DGN:FRM xy,SEQ ww:UNIT [q]q,UC[,CFT X'vwxy]!**

[I.32341]

**DGRTH:FRM xy,SEQ ww:NPC [s]abc[-[t]def]!**

[I.32341]

**DGRTH:FRM xy,SEQ ww:NPC uvmnp[-uvkqr]!**

[I.32401]

**DGRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTG rrr[,TGR]!**

[I.32401]

**DGRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTG rrr[,TGR]!**

[I.32381]

**DGRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTP n[,TPR]!**

[I.32381]

**DGRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTP n[,TPR]!**

[I.32101]

**DGRTH:FRM xy,SEQ ww:SYNC,TB!**

[I.32121]

**DGRTH:FRM xy,SEQ ww:SYNC,TLI m[,SSP a]!**

[I.32421]

**DGRTH:FRM xy,SEQ ww:TG mmm[-nnn]!**

[I.32411]

**DGRTH:FRM xy,SEQ ww:TP kk!**

[I.32211]

**DGRTH:FRM xy,SEQ ww:UNIT [q]q!**

[I.32321]

**DGRTH:FRM xy,SEQ ww:UNIT [q]q,FTMI d!**

[I.32511]

**DGRTH:FRM xy,SEQ ww:UNIT [q]q,MIU c[-d]!**

[I.32501]

**DGRTH:FRM xy,SEQ ww:UNIT [q]q,MXR c[-d]!**

[I.37301]

**DLT:FRM xy,SEQ ww:FPKG nnnnnnnn!**

[I.37201]

**DLT:FRM xy,SEQ ww:{MACRO <macro name>|MAP <map name>}\  
[,USER <user id>]!**

[I.37001]

**DLT:FRM xy,SEQ ww:NPC {[s]abc-[t]def|[s]abc[, [s]ghi]...\  
[, [t]def]}!**

[I.37001]

**DLT:FRM xy,SEQ ww:NPC {uvmnp-wxkqr|uvmnp[, abcde]...[, wxkqr]}!**

[I.37211]

**DLT:FRM xy,SEQ ww:{RT|DL} ffff[, DGA [s]aaa][, DGB [s]bbb]\  
[, DGC [s]ccc][, DGD [s]ddd][, DGP [s]ppp]!**

[I.37211]

**DLT:FRM xy,SEQ ww:{RT|DL} ffff\  
[, DGA uvjab][, DGB uvkcd][, DGC uvlef][, DGD uvmgh]\  
[, DGP uvjpr]!**

[I.37101]

**DLT:FRM xy,SEQ ww:USER <user id>!**

[I.19031]

**ED:FRM xy,SEQ ww:CRET,MAP <new map name>\  
,PIC <reference map name>!**

[I.19001]

**ED:FRM xy,SEQ ww:{MACRO <macro name>|MAP <map name>}!**

[I.39301]

EXC:FRM xy,SEQ ww:MACRO <macro name>[(,(<p1>[(,(<p2>[(,(<p3>\  
[,...[,(<p10>)]))])])])]

[I.30101]

GRTH:FRM xy,SEQ ww:FRAME fg[,CHAR m][,UID <uid>]!

[I.31401]

GRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTG rrr!

[I.31401]

GRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTG rrr!

[I.31381]

GRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTP n!

[I.31381]

GRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTP n!

[I.31331]

GRTH:[FRM xy,SEQ ww]:NPC [s]abc[-[t]def],TYPE mnxyz!

[I.31331]

GRTH:[FRM xy,SEQ ww]:NPC uvmnp[-wxkqr],TYPE mnxyz!

[I.31351]

GRTH:FRM xy,SEQ ww:NPC [s]abc,TYPE mnxyz!

[I.31351]

GRTH:FRM xy,SEQ ww:NPC uvmnp,TYPE mnxyz!

[I.31371]

GRTH:FRM xy,SEQ ww:NPC [s]abc[-[t]def],TYPE DSxyz \  
[,OPTS(rr/m [,rr/m][...])][,IW X'pq]!

[I.31371]

GRTH:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],TYPE DSxyz \  
[,OPTS(rr/m [,rr/m][...])][,IW X'pq]!

[I.31341]

GRTH:FRM xy,SEQ ww:NPC [s]abc[-[t]def],TYPE mnxyz[,OPTS(rr/m\  
[,rr/m][...])][,IW X'pq[,INCL]][,AIS {INFO|MJ|MN}}[,PL {ENA|DSA}}]!

[I.31341]

GRTH:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],TYPE mnxyz[,OPTS(rr/m\  
[,rr/m][...])][,IW X'pq[,INCL]][,AIS {INFO|MJ|MN}}[,PL {ENA|DSA}}]!

[I.31352]  
GRTH:FRM xy,SEQ ww:NPC [s]abc[-[t]def][,TYPE mnxyz]\  
[,OPTS(rr/m[,rr/m][,...])][,IW X'pq[,INCL]][,AIS {INFO|MJ|MN}]!

[I.31352]  
GRTH:FRM xy,SEQ ww:NPC uvmnp[-uvkqr][,TYPE mnxyz]\  
[,OPTS(rr/m[,rr/m][,...])][,IW X'pq[,INCL]][,AIS {INFO|MJ|MN}]!

[I.31101]  
GRTH:FRM xy,SEQ ww:SYNC,TB,TYPE TBpqr!

[I.31111]  
GRTH:FRM xy,SEQ ww:SYNC,TLI 3,TYPE TBpqr!

[I.31121]  
GRTH:FRM xy,SEQ ww:SYNC,TLI m,\  
{TYPE texyz,SSP a,SRC p|TYPE TDxyz}!

[I.31421]  
GRTH:FRM xy,SEQ ww:TG mmm,NPCTG (rrr,eee[-fff];sss,www[-xxx])\  
[,<tc>]!

[I.31411]  
GRTH:FRM xy,SEQ ww:TP kk[,<tc>]!

[I.31321]  
GRTH:FRM xy,SEQ ww:UNIT [q]q,FTMI d,EQL(l,r)!

[I.31501]  
GRTH:FRM xy,SEQ ww:UNIT [q]q,MIU c[-d][,TYPE mnxyz]!

[I.31511]  
GRTH:FRM xy,SEQ ww:UNIT [q]q,MXR c[-d]\  
[,TYPE mnxyz][,BERM s][,BERT t][,LBO <b>]!

[I.31211]  
GRTH:FRM xy,SEQ ww:UNIT q[,TYPE utxyz]\  
[,CONN(a[,b[,c[,d[,e [,f]]]]))]]]!

[I.31211]  
GRTH:FRM xy,SEQ ww:UNIT [q]q[,TYPE utxyz]!

[I.51161]  
INH:FRM xy,SEQ ww:PMREPT,{NPC [s]abc[-[t]def]|ALL}!

[I.51161]  
INH:FRM xy,SEQ ww:PMREPT,{NPC uvmnp[-wxkqr]|ALL}!

[I.35311]

**INHSW:FRM xy,SEQ ww:UNIT [q]q,MMFG c[-d],{TOPRTN|TOSRVC}!**

[I.19071]

**LINE[:FRM xy,SEQ ww:]!**

[I.19061]

**LIST[:FRM xy,SEQ ww:{<starting line>|END}[-{<ending line>|\nEND}]]!**

[I.39001]

**LOGIN:FRM xy,SEQ ww:USER <user id>[,PASSWD <user password>]!**

[I.39001]

**LOGIN:FRM xy,SEQ ww:USER <user id>!  
PASSWD: <user enters the user password>**

[I.39101]

**LOGOFF:FRM xy,SEQ ww:{USER <user id>|LINK j[mm][,INCL]}!**

[I.19091]

**MOVE:FRM xy,SEQ ww:FROM {<starting line>|END}\n[-{<ending line>|END}],TO {<destination line>|END}!**

[I.12121]

**OCNT:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\nMPM(fmd,tmd),<tc>[, {CUS|INCL}][,RDC]!**

[I.12121]

**OCNT:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\nMPM(fmd,tmd),<tc>[, {INCL|CUS}][,RDC]!**

[I.12101]

**OCNT:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\n,<tc>[,RDC][,{CUS|INCL}][,PRIOUT]!**

[I.12101]

**OCNT:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\n,<tc>[,RDC][,{CUS|INCL}][,PRIOUT]!**

[I.12131]

**OCNT:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC]\n[, {CUS|INCL}][,PRIOUT]!**

[I.12131]

**OCNT:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC]\n[, {CUS|INCL}][,PRIOUT]!**

[I.11121]  
OCON:FRM xy,SEQ ww:FROM [s]abcdddd[-eee],TO [t]ghijjj[-kkk],\  
MPM(fmd,tmd),<tc>[, {CUS|INCL}][,RDC]!

[I.11121]  
OCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\  
MPM(fmd,tmd),<tc>[, {INCL|CUS}][,RDC]!

[I.11101]  
OCON:FRM xy,SEQ ww:FROM [s]abcdddd[-eee],TO [t]ghijjj[-kkk],\  
<tc>[,RDC][{,CUS|,INCL}][,PRIOUT]!

[I.11101]  
OCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\  
<tc>[,RDC][{,CUS|,INCL}][,PRIOUT]!

[I.11131]  
OCON:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC][,{CUS|INCL}][,PRIOUT]!

[I.11131]  
OCON:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][,{CUS|INCL}][,PRIOUT]!

[I.15102]  
ODIS:FRM xy,SEQ ww:FROM [s]abcdddd[-eee],TO [t]ghijjj[-kkk]\  
[,INCL][,OOS][,DCC]!

[I.15102]  
ODIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\  
[,INCL][,OOS][,DCC]!

[I.15101]  
ODIS:FRM xy,SEQ ww:FROM [s]abcdddd[-eee],TO [t]ghijjj[-kkk]\  
[,INCL][,OOS][,DCC][,PRIOUT]!

[I.15101]  
ODIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\  
[,INCL][,OOS][,DCC][,PRIOUT]!

[I.15111]  
ODIS:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,OOS][,INCL][,PRIOUT]!

[I.15111]  
ODIS:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,OOS][,INCL][,PRIOUT]!

[I.26141]  
OPR:FRM xy,SEQ ww:LPBK loop,NPC [s]abc,LOCN locn!

[I.26141]

**OPR:FRM xy,SEQ ww:LPBK loop,NPC uvmnp,LOCN locn!**

[I.28101]

**OPR:FRM xy,SEQ ww:TSIG test,NPC [s]abc!**

[I.28101]

**OPR:FRM xy,SEQ ww:TSIG test,NPC uvmnp!**

[I.26151]

**RLS:FRM xy,SEQ ww:LPBK loop,NPC [s]abc,LOCN locn!**

[I.26151]

**RLS:FRM xy,SEQ ww:LPBK loop,NPC uvmnp,LOCN locn!**

[I.28201]

**RLS:FRM xy,SEQ ww:TSIG test,NPC [s]abc!**

[I.28201]

**RLS:FRM xy,SEQ ww:TSIG test,NPC uvmnp!**

[I.33202]

**RMV:FRM xy,SEQ ww:CCB sf!**

[I.33251]

**RMV:FRM xy,SEQ ww:CCI s!**

[I.33201]

**RMV:FRM xy,SEQ ww:CCNI s!**

[I.33261]

**RMV:FRM xy,SEQ ww:ETSI sqq!**

[I.33271]

**RMV:FRM xy,SEQ ww:ETSI, ECCN s, ALL!**

[I.33011]

**RMV:FRM xy,SEQ ww:LINK j!**

[I.33001]

**RMV:FRM xy,SEQ ww:MC!**

[I.33351]

**RMV:[FRM xy,SEQ ww]:NPC [s]abc[-[t]def][,SIDE s][,INCL]!**

[I.33351]

**RMV:[FRM xy,SEQ ww]:NPC uvmnp[-uvkqr][,SIDE s][,INCL]!**



[I.33481]

**RMV:FRM xy,SEQ ww:{RT|DL} ffff!**

[I.33211]

**RMV:FRM xy,SEQ ww:{SMEM|PMEM}!**

[I.33101]

**RMV:FRM xy,SEQ ww:SYNC a!**

[I.33111]

**RMV:FRM xy,SEQ ww:SYNC,TLI 3,CRO!**

[I.33121]

**RMV:FRM xy,SEQ ww:SYNC a,TLI m[,SSP b]!**

[I.33221]

**RMV:FRM xy,SEQ ww:TSI sft!**

[I.33241]

**RMV:FRM xy,SEQ ww:TSIS,CCN s,ALL!**

[I.33231]

**RMV:FRM xy,SEQ ww:TSIS,CCN s,UNIT q\  
[,CONN(a[,b[,c[,d[,e[,f]]]]))]]!**

[I.33331]

**RMV:FRM xy,SEQ ww:UNIT [q]q,FC sb!**

[I.33401]

**RMV:FRM xy,SEQ ww:UNIT [q]q,FLI k!**

[I.33411]

**RMV:FRM xy,SEQ ww:UNIT [q]q,FMT s!**

[I.33321]

**RMV:FRM xy,SEQ ww:UNIT [q]q,{FTMI d|DSPI}!**

[I.33431]

**RMV:FRM xy,SEQ ww:UNIT [q]q,MIU c[-d][,INCL]!**

[I.33421]

**RMV:FRM xy,SEQ ww:UNIT [q]q,MMFG c[-d][,FRC[,INCL]]!**

[I.33311]

**RMV:FRM xy,SEQ ww:UNIT [q]q,UC!**

[I.34202]

**RST:FRM xy,SEQ ww:CCB sf!**

[I.34251]

**RST:FRM xy,SEQ ww:CCI s!**

[I.34201]

**RST:FRM xy,SEQ ww:CCNI s!**

[I.34261]

**RST:FRM xy,SEQ ww:ETSI sqq!**

[I.34271]

**RST:FRM xy,SEQ ww:ETSI, ECCN s, ALL!**

[I.34011]

**RST:FRM xy,SEQ ww:LINK j!**

[I.34001]

**RST:FRM xy,SEQ ww:MC[, {MCOND|NOJRN|FRC}]!**

[I.34001]

**RST:FRM xy,SEQ ww:MC, CLR[, ALL]!**

[I.34351]

**RST:[FRM xy,SEQ ww]:NPC [s]abc[-[t]def][,SIDE s]!**

[I.34351]

**RST:[FRM xy,SEQ ww]:NPC uvmp[-uvkqr][,SIDE s]!**

[I.34211]

**RST:FRM xy,SEQ ww:{PMEM|SMEM[{,CLR[,FRC][,BKGRND]}]}!**

[I.34481]

**RST:FRM xy,SEQ ww:{RT|DL} ffff!**

[I.34101]

**RST:FRM xy,SEQ ww:SYNC a!**

[I.34111]

**RST:FRM xy,SEQ ww:SYNC, TLI 3, CR0!**

[I.34121]

**RST:FRM xy,SEQ ww:SYNC a, TLI m[, SSP b]!**

[I.34221]

**RST:FRM xy,SEQ ww:TSI sft!**

[I.34241]

**RST:FRM xy,SEQ ww:TSIS,CCN s,ALL!**

[I.34231]

**RST:FRM xy,SEQ ww:TSIS,CCN s,UNIT q \**  
**[,CONN(a[,b[,c[,d[,e[,f]]]]))]]!**

[I.34331]

**RST:FRM xy,SEQ ww:UNIT [q]q,FC sb!**

[I.34401]

**RST:FRM xy,SEQ ww:UNIT [q]q,FLI k!**

[I.34411]

**RST:FRM xy,SEQ ww:UNIT [q]q,FMT s!**

[I.34321]

**RST:FRM xy,SEQ ww:UNIT [q]q,{FTMI d|DSPI}!**

[I.34431]

**RST:FRM xy,SEQ ww:UNIT [q]q,MIU c[-d][,INCL]!**

[I.34421]

**RST:FRM xy,SEQ ww:UNIT [q]q,MMFG c[-d][,INCL]!**

[I.34311]

**RST:FRM xy,SEQ ww:UNIT [q]q,UC!**

[I.19081]

**SAVE[:FRM xy,SEQ ww:]!**

[I.19321]

**SCNT:FRM xy,SEQ ww:[RATE rr,]MPTM [s]abcddd[/ff],MJU ssss\**  
**[,MA(tttt,u)],<branch>[,<branch>][,<branch>][,<branch>]!**

[I.19321]

**SCNT:FRM xy,SEQ ww:[RATE rr,]MPTM uvmnpddd[/ff],MJU ssss\**  
**[,MA(tttt,u)],<branch>[,<branch>][,<branch>][,<branch>]!**

[I.19301]

**SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM [s]abcddd[/ff],\**  
**TO [t]ghijjj[/ll]!**

[I.19301]

SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM uvmnpddd[/ff],\  
TO wxkqrjjj[/ll]!

[I.19311]

SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM [s]abcd-dd-eee[/01],\  
TO [t]ghijjj-kkk[/01]!

[I.19311]

SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM [s]abcd-dd/ff-mm,\  
TO [t]ghijjj/ll-nn!

[I.19311]

SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM uvmnpddd-eee[/01],\  
TO wxkqrjjj-kkk[/01]!

[I.19311]

SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM uvmnpddd/ff-mm,\  
TO wxkqrjjj/ll-nn!

[I.19221]

SCON:FRM xy,SEQ ww:[RATE rr,]MPTM [s]abcd-dd[/ff],MJU ssss\  
[,MA(tttt,u)]  
[,<branch>][,<branch>][,<branch>][,<branch>]!

[I.19221]

SCON:FRM xy,SEQ ww:[RATE rr,]MPTM uvmnpddd[/ff],MJU ssss\  
[ ,MA(tttt,u)][,<branch>][,<branch>][,<branch>][,<branch>]!

[I.19201]

SCON:FRM xy,SEQ ww:RATE rr[,TPT],FROM [s]abcd-dd[/ff],\  
TO [t]ghijjj[/ll]!

[I.19201]

SCON:FRM xy,SEQ ww:RATE rr[,TPT],FROM uvmnpddd[/ff],\  
TO wxkqrjjj[/ll]!

[I.19211]

SCON:FRM xy,SEQ ww:RATE rr,[TPT,]FROM [s]abcd-dd-eee[/01],\  
TO [t]ghijjj-kkk[/01]!  
SCON:FRM xy,SEQ ww:RATE rr,[TPT,]FROM [s]abcd-dd/ff-mm,\  
TO [t]ghijjj/ll-nn!

[I.19211]

SCON:FRM xy,SEQ ww:RATE rr,[TPT,]FROM uvmnpddd-eee[/01],\  
TO wxkqrjjj-kkk[/01]!  
SCON:FRM xy,SEQ ww:RATE rr,[TPT,]FROM uvmnpddd/ff-mm,\  
TO wxkqrjjj/ll-nn!

[I.19151]

SDCH:FRM xy,SEQ ww:TO [s]abcdddd[-eee][,PCH[ ppp]][,DCC]!

[I.19151]

SDCH:FRM xy,SEQ ww:TO uvmnpddd[-eee][,PCH[ ppp]][,DCC]!

[I.19421]

SDIS:FRM xy,SEQ ww:[RATE rr,]MPTM [s]abcdddd[/ff],MJU ssss,\  
<branch>[,<branch>][,<branch>][,<branch>]!

[I.19421]

SDIS:FRM xy,SEQ ww:[RATE rr,]MPTM uvmnpddd[/ff],MJU ssss,\  
<branch>[,<branch>][,<branch>][,<branch>]!

[I.19431]

SDIS:FRM xy,SEQ ww:[RATE rr,]MPTM [s]abcdddd[/ff],MJU ssss \  
[,ALL]!

[I.19431]

SDIS:FRM xy,SEQ ww:[RATE rr,]MPTM uvmnpddd[/ff],MJU ssss \  
[,ALL]!

[I.19401]

SDIS:FRM xy,SEQ ww:[RATE rr[,TPT],] FROM [s]abcdddd[/ff],\  
TO [t]ghijjj[/ll]!

[I.19401]

SDIS:FRM xy,SEQ ww:[RATE rr[,TPT],] FROM uvmnpddd[/ff],\  
TO wxkqrjjj[/ll]!

[I.19411]

SDIS:FRM xy,SEQ ww:[RATE rr,][TPT,] FROM [s]abcdddd{-eee[/01]]\  
/ff-mm},TO [t]ghijjj{-kkk[/01]]/ll-nn}!

[I.19411]

SDIS:FRM xy,SEQ ww:[RATE rr,][TPT,] FROM uvmnpdd{-eee[/01]]\  
/ff-mm},TO wxkqrjjj{-kkk[/01]]/ll-nn}!

[I.19101]

SECH:FRM xy,SEQ ww:TO [s]abcdddd[-eee],[DS0A rr|DS0B nn]\  
[, {SEC|PCH[ ppp]}}!

[I.19101]

**SECH:FRM xy,SEQ ww:TO uvmnpddd[-eee],{DS0A rr|DS0B nn}\**  
**[,{SEC|PCH[ ppp]}]!**

[I.19111]

**SECH:FRM xy,SEQ ww:TO [s]abcddd[-eee],RATE rr[,DP]\**  
**[,PCH[ ppp]]!**

[I.19111]

**SECH:FRM xy,SEQ ww:TO uvmnpddd[-eee],RATE rr[,DP]\**  
**[,PCH[ ppp]]!**

[I.39311]

**STOP:FRM xy,SEQ ww:MACRO[,LINK l[mm]]!**

[I.19621]

**STST:FRM xy,SEQ ww:MON,TO [s]abcddd[/ff],MJU ssss,[BRi,]\**  
**TP kk!**

[I.19621]

**STST:FRM xy,SEQ ww:MON,TO uvmnpddd[/ff],MJU ssss,[BRi,]\**  
**TP kk!**

[I.19601]

**STST:FRM xy,SEQ ww:MON[,TO [s]abcddd[/ff]],TP kk!**

[I.19601]

**STST:FRM xy,SEQ ww:MON[,TO uvmnpddd[/ff]],TP kk!**

[I.19651]

**STST:FRM xy,SEQ ww:SPL,TO [s]abcddd[/ff],MJU ssss,[BRi,],TP kk!**

[I.19651]

**STST:FRM xy,SEQ ww:SPL,TO uvmnpddd[/ff],MJU ssss,[BRi,],TP kk!**

[I.19631]

**STST:FRM xy,SEQ ww:SPL[,TO [s]abcddd[/ff]],TP kk!**

[I.19631]

**STST:FRM xy,SEQ ww:SPL[,TO uvmnpddd[/ff]],TP kk!**

[I.19661]

**STST:FRM xy,SEQ ww:{TLA|TLR} m,TP kk!**

[I.19681]

**STST:FRM xy,SEQ ww:TPR,{ALL|LINKS}!**

[I.19671]

**STST:FRM xy,SEQ ww:TPR,TP kk!**

[I.14021]

**SW:FRM xy,SEQ ww:BCAST,OLD [s]abcddd[-eee],NEW [t]ghijjj\  
[-kkk][,INCL]**

[I.14021]

**SW:FRM xy,SEQ ww:BCAST,OLD uvmnpddd[-eee],NEW wxkqrjjj\  
[-kkk][,INCL]**

[I.14061]

**SW:FRM xy,SEQ ww:BCAST,OLD [s]abc,NEW [t]ghi[,INCL]**

[I.14061]

**SW:FRM xy,SEQ ww:BCAST,OLD uvmnp,NEW wxkqr[,INCL]**

[I.14041]

**SW:FRM xy,SEQ ww:DISC [s]abcddd[-eee][,00S]**

[I.14041]

**SW:FRM xy,SEQ ww:DISC uvmnpddd[-eee][,00S]**

[I.14081]

**SW:FRM xy,SEQ ww:DISC [s]abc[,00S]**

[I.14081]

**SW:FRM xy,SEQ ww:DISC uvmnp[,00S]**

[I.39401]

**SW:FRM xy,SEQ ww:{NPC [s]abc|RT ffff,xxx},\  
{PSW|USW|ALW|INH}[,FRC][,INCL]!**

[I.39401]

**SW:FRM xy,SEQ ww:{NPC uvmnp|RT ffff,xxx},\  
{PSW|USW|ALW|INH}[,FRC][,INCL]!**

[I.14031]

**SW:FRM xy,SEQ ww:ROLL,OLD [s]abcddd[-eee],NEW [t]ghijjj[-kkk]\  
[,INCL][,FRC][,00S]**

[I.14031]

**SW:FRM xy,SEQ ww:ROLL,OLD uvmnpddd[-eee],NEW wxkqrjjj[-kkk]\  
[,INCL][,FRC][,00S]**

[I.14071]

SW:FRM xy,SEQ ww:ROLL,OLD [s]abc,NEW [t]ghi[,INCL][,FRC]\  
[,OOS][,TWAY]

[I.14071]

SW:FRM xy,SEQ ww:ROLL,OLD uvmnp,NEW wxkqr[,INCL][,FRC]\  
[,OOS][,TWAY]

[I.35101]

SW:FRM xy,SEQ ww:UNIT [q]q,FLI,TOPTN!

[I.35105]

SW:FRM xy,SEQ ww:UNIT [q]q,FLI,TOSRVC!

[I.35111]

SW:FRM xy,SEQ ww:UNIT [q]q,MMFG c,TOPTN[,FRC]!

[I.35121]

SW:FRM xy,SEQ ww:UNIT [q]q,MMFG c,TOSRVC!

[I.12001]

TCNT:[FRM xy,SEQ ww]:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\  
<tc>[,trnk][,AIS][,{CUS|INCL}][,RDC][,PRIOUT]!

[I.12001]

TCNT:[FRM xy,SEQ ww]:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\  
<tc>[,trnk][,AIS][,{CUS|INCL}][,RDC][,PRIOUT]!

[I.12021]

TCNT:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\  
MPM(fmd,tmd),<tc>[,NTR m][,RDC][,{CUS|INCL}]!

[I.12021]

TCNT:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\  
MPM(fmd,tmd),<tc>[,NTR m][,RDC][,{CUS|INCL}]!

[I.12031]

TCNT:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC][,{CUS|INCL}][,PRIOUT]!

[I.12031]

TCNT:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][,{CUS|INCL}][,PRIOUT]!

[I.11001]

TCON:[FRM xy,SEQ ww]:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\  
<tc>[,trnk][,AIS][,{CUS|INCL}][,RDC][,PRIOUT]!



[I.11001]

**TCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\  
<tc>[,trnk][,AIS][,{CUS|INCL}][,RDC][,PRIOUT]!**

[I.11021]

**TCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\  
MPM(fmd,tmd),<tc>,[NTR m][,RDC][,{CUS|INCL}]!**

[I.11021]

**TCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\  
MPM(fmd,tmd),<tc>,[NTR m][,RDC][,{CUS|INCL}]!**

[I.11011]

**TCON:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC][,{CUS|INCL}][,PRIOUT]!**

[I.11011]

**TCON:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][,{CUS|INCL}][,PRIOUT]!**

[I.15002]

**TDIS:FRM xy,SEQ ww:FROM [s]abcddd,TO [t]ghijjj[,INCL][,OOS]\  
[,DCC]!**

[I.15002]

**TDIS:FRM xy,SEQ ww:FROM uvmnpddd,TO wxkqrjjj[,INCL][,OOS]\  
[,DCC]!**

[I.15001]

**TDIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\  
[,INCL][,OOS][,DCC][,PRIOUT]!**

[I.15001]

**TDIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\  
[,INCL][,OOS][,DCC][,PRIOUT]!**

[I.15011]

**TDIS:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,OOS][,INCL][,PRIOUT]!**

[I.15011]

**TDIS:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,OOS][,INCL][,PRIOUT]!**

[I.24021]

**TTST:FRM xy,SEQ ww:HUB,TO ([s]abcddd,[t]ghijjj),TG mmm[,<tc>]!**

[I.24021]

**TTST:FRM xy,SEQ ww:HUB,TO (uvmnpddd,wxkqrjjj),TG mmm[,<tc>]!**

[I.24001]

TTST:FRM xy,SEQ ww:HUB,<tc>,TO [t]ghijjj,TP kk!

[I.24001]

TTST:FRM xy,SEQ ww:HUB,<tc>,TO uvmnpjjj,TP kk!

[I.29021]

TTST:FRM xy,SEQ ww:LPD,TG mmm[,<tc>]!

[I.29001]

TTST:FRM xy,SEQ ww:LPD,TP kk,<tc>!

[I.21031]

TTST:FRM xy,SEQ ww:MON,TG mmm!

[I.21021]

TTST:FRM xy,SEQ ww:MON,TO [t]ghi(jjj[-kkk][,lll,...])[,<tc>],\  
TG mmm!

[I.21021]

TTST:FRM xy,SEQ ww:MON,TO wxkqr(jjj[-kkk][,lll,...])[,<tc>],\  
TG mmm!

[I.21001]

TTST:FRM xy,SEQ ww:MON[,TO [t]ghijjj][,<tc>],TP kk!

[I.21001]

TTST:FRM xy,SEQ ww:MON[,TO uvmnpjjj][,<tc>],TP kk!

[I.26101]

TTST:FRM xy,SEQ ww:RT ffff,{DGA|DGB|DGC|DGD|DGP},\  
LLB[, {TO|FROM}], {INI|TRM|ALW|INH}!

[I.23021]

TTST:FRM xy,SEQ ww:SPL,TG mmm!

[I.23021]

TTST:FRM xy,SEQ ww:SPL,TG mmm[,NOYLW]!

[I.23001]

TTST:FRM xy,SEQ ww:SPL,TP kk!

[I.27021]

TTST:FRM xy,SEQ ww:TGR,TG mmm[-nnn][,00S]!

[I.25101]

TTST:FRM xy,SEQ ww:TLA m[,NOT [t]rstvvv],TP kk!

[I.25101]

TTST:FRM xy,SEQ ww:TLA m[,NOT uvmnpvvv],TP kk!

[I.25121]

TTST:FRM xy,SEQ ww:TLA m,TG mmm!

[I.25501]

TTST:FRM xy,SEQ ww:TLR m[,NOT [t]rstvvv],TP kk!

[I.25501]

TTST:FRM xy,SEQ ww:TLR m[,NOT uvmnpvvv],TP kk!

[I.25521]

TTST:FRM xy,SEQ ww:TLR m,TG mmm!

[I.27002]

TTST:FRM xy,SEQ ww:TPR,ALL[,00S]!

[I.27001]

TTST:FRM xy,SEQ ww:TPR,TP kk[,00S]!

[I.51111]

UTL:FRM xy,SEQ ww:ACO!

[I.55701]

UTL:FRM xy,SEQ ww:BMTR,FROM <from>,TO <to>[, {EXCT|INCL}]!

[I.58001]

UTL:FRM xy,SEQ ww:BOOT,FRAME[,CLR]!

[I.56011]

UTL:FRM xy,SEQ ww:CLR,<parameter>,ALL!

[I.56061]

UTL:FRM xy,SEQ ww:CLR,ERR, {HWER|SWER}!

[I.56071]

UTL:FRM xy,SEQ ww:CLR,{NPC [s]abc[-[t]def]|ALL},<parameter>[,AI aaaaa] \  
[,LOCN locn][,MONDAT dddd][,MONTIM tttt]!

[I.56071]

UTL:FRM xy,SEQ ww:CLR,{NPC uvmnp[-wxkqr]|ALL},<parameter>[,AI aaaaa] \  
[,LOCN locn][,MONDAT dddd][,MONTIM tttt]!

[I.56051]

UTL:FRM xy,SEQ ww:CLR,NPC [s]abc,PARAMS!

[I.56051]

**UTL:FRM xy,SEQ ww:CLR,NPC uvmnp,PARAMS!**

[I.56001]

**UTL:FRM xy,SEQ ww:CLR,<parameter>,{NPC [s]abc[-[t]def]|\  
RT ffff|DL ffff}!**

[I.56001]

**UTL:FRM xy,SEQ ww:CLR,<parameter>,{NPC uvmnp[-wxkqr]|\  
RT ffff|DL ffff}!**

[I.51021]

**UTL:FRM xy,SEQ ww:DATE <new-date>[,FORMAT ggg][,INT ii]!**

[I.51101]

**UTL:FRM xy,SEQ ww:INIT,ALM a!**

[I.56401]

**UTL:FRM xy,SEQ ww:LOC,<entity>!**

[I.56031]

**UTL:FRM xy,SEQ ww:QRY,<parameter>,ALL!**

[I.53104]

**UTL:FRM xy,SEQ ww:QRY,ALL,COMMON!**

[I.53101]

**UTL:FRM xy,SEQ ww:QRY,ALL[,UNIT [q]q]!**

[I.56331]

**UTL:FRM xy,SEQ ww:QRY,ALM,DS3!**

[I.56021]

**UTL:FRM xy,SEQ ww:QRY,ALMOPT,NPC [s]abc[-[v]ghi],AIS!**

[I.56021]

**UTL:FRM xy,SEQ ww:QRY,ALMOPT,NPC uvmnp[-wxkqr],AIS!**

[I.53111]

**UTL:FRM xy,SEQ ww:QRY,ALMS!**

[I.53151]

**UTL:FRM xy,SEQ ww:QRY,ALMS,DBASE!**

[I.53141]

**UTL:FRM xy,SEQ ww:QRY,ALMS,{RT|DL} ffff!**

[I.52101]

**UTL: : QRY, BCAST, ALL !**

[I.52111]

**UTL: FRM xy, SEQ ww: QRY, BCAST, FROM [s] abcd d d !**

[I.52111]

**UTL: FRM xy, SEQ ww: QRY, BCAST, FROM uv m n p d d d !**

[I.52121]

**UTL: FRM xy, SEQ ww: QRY, BCAST, FROM [s] abc !**

[I.52121]

**UTL: FRM xy, SEQ ww: QRY, BCAST, FROM uv m n p !**

[I.52011]

**UTL: [FRM xy, SEQ ww]: QRY, CMAP [s] abc [- [t] def] !**

[I.52011]

**UTL: [FRM xy, SEQ ww]: QRY, CMAP uv m n p [-wxkqr] !**

[I.51091]

**UTL: FRM xy, SEQ ww: QRY, CNFGR !**

[I.53121]

**UTL: FRM xy, SEQ ww: QRY, CS, NPC [s] abc !**

[I.53121]

**UTL: FRM xy, SEQ ww: QRY, CS, NPC uv m n p !**

[I.51031]

**UTL: FRM xy, SEQ ww: QRY, DATE !**

[I.52031]

**UTL: [FRM xy, SEQ ww]: QRY, DMAP !**

[I.53221]

**UTL: FRM xy, SEQ ww: QRY, DS3, BERMT[, UNIT [q]q] !**

[I.53231]

**UTL: FRM xy, SEQ ww: QRY, DS3, LB0 !**

[I.51511]

**UTL: FRM xy, SEQ ww: QRY, ECLOC !**

[I.53109]

**UTL: FRM xy, SEQ ww: QRY, EQD, COMMON !**

[I.53031]

UTL:FRM xy,SEQ ww:QRY,EQD,CONN!

[I.53022]

UTL:FRM xy,SEQ ww:QRY,EQD,ETISIS!

[I.53201]

UTL:FRM xy,SEQ ww:QRY,EQD,MIUS!

[I.53211]

UTL:FRM xy,SEQ ww:QRY,EQD,MXRS!

[I.53041]

UTL:FRM xy,SEQ ww:QRY,EQD,NPCS[, {TOTAL|UNIT [q]q}]!

[I.53021]

UTL:FRM xy,SEQ ww:QRY,EQD,TSIS!

[I.53108]

UTL:FRM xy,SEQ ww:QRY,EQD[,UNIT [q]q]!

[I.53011]

UTL:FRM xy,SEQ ww:QRY,EQD,UNITS!

[I.55011]

UTL:FRM xy,SEQ ww:QRY,ERR,{SWER|HWER}{, {INT mn|[DATE moda[ce]yr,] TOD hrmsc}}\[,TN X'dddd][,EVENT X'eeee][,ERCL{HARD|TRANS|APPINT}}[,ENTY <entity>]!

[I.55401]

UTL:FRM xy,SEQ ww:QRY,ESR,CCN s!

[I.55411]

UTL:FRM xy,SEQ ww:QRY,ESR,ECCN s!

[I.55111]

UTL:FRM xy,SEQ ww:QRY,ESR,MP!

[I.55601]

UTL:FRM xy,SEQ ww:QRY,ESR,NPC [s]abc[,SIDE s]!

[I.55601]

UTL:FRM xy,SEQ ww:QRY,ESR,NPC uvmp[,SIDE s]!

[I.55501]

UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q!

[I.55531]

UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,DSPI!

[I.55521]

UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,FC sb!

[I.55801]

UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,FLI k!

[I.55811]

UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,FMT s!

[I.55511]

UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,FTMI d!

[I.55831]

UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,MIU c!

[I.55821]

UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,MXR c!

[I.51121]

UTL:FRM xy,SEQ ww:QRY,FPKG!

[I.52051]

UTL:FRM xy,SEQ ww:QRY,FROM [s]abcddd[-eee]!

[I.52051]

UTL:FRM xy,SEQ ww:QRY,FROM uvmnpddd[-eee]!

[I.52071]

UTL:FRM xy,SEQ ww:QRY,FROM [s]abc!

[I.52071]

UTL:FRM xy,SEQ ww:QRY,FROM uvmnp!

[I.51501]

UTL:FRM xy,SEQ ww:QRY,HUBID!

[I.54131]

UTL:FRM xy,SEQ ww:QRY,LIST,MACRO <macro name>\  
[,USER <user id>]!

[I.54101]

UTL:FRM xy,SEQ ww:QRY,LIST,MAP <name>[,USER <user id>]!

[I.52581]

UTL:FRM xy,SEQ ww:QRY,LOAD,{NPC [s]abc|TOTAL}!

[I.52581]

UTL:FRM xy,SEQ ww:QRY,LOAD,{NPC uvmnp|TOTAL}!

[I.54011]

UTL:FRM xy,SEQ ww:QRY,LOG[,ALL]!

[I.53131]

UTL:FRM xy,SEQ ww:QRY,LPBK,NPC [s]abc[-[t]def]!

[I.53131]

UTL:FRM xy,SEQ ww:QRY,LPBK,NPC uvmnp[-wxkqr]!

[I.54211]

UTL:FRM xy,SEQ ww:QRY,MACRO,ATTR[, {USER <user id>|ALL}]!

[I.54221]

UTL:FRM xy,SEQ ww:QRY,{MACRO|MAP},SPACE[, {USER <user id>|ALL|\  
SYSTEM}]!

[I.54121]

UTL:FRM xy,SEQ ww:QRY,MACRO <name>[,USER <user id>]!

[I.54201]

UTL:FRM xy,SEQ ww:QRY,MAP,ATTR[, {ALL|USER <user id>|MAPNM <name>}]!

[I.52201]

UTL:FRM xy,SEQ ww:QRY,MARK [s]abc[-[t]def]!

[I.52201]

UTL:FRM xy,SEQ ww:QRY,MARK uvmnp[-wxkqr]!

[I.52211]

UTL:FRM xy,SEQ ww:QRY,MARK [s]abcjjj[-kkk]!

[I.52211]

UTL:FRM xy,SEQ ww:QRY,MARK uvmnpjjj[-kkk]!

[I.51001]

UTL:[FRM xy,SEQ ww]:QRY,MEMSTAT!

[I.56091]

UTL:FRM xy,SEQ ww:QRY,{NPC [s]abc[-[t]def]|ALL},<parameter>,AI aaaaa \  
[,LV llllllllll][,LOCN locn][,MONDAT dddd][,MONTIM tttt]!



[I.56091]

UTL:FRM xy,SEQ ww:QRY,{NPC uvmnp[-wxkqr]|ALL},<parameter>,AI aaaaa \[,LV llllllllll][,LOCN locn][,MONDAT dddd][,MONTIM tttt]!

[I.54111]

UTL:FRM xy,SEQ ww:QRY,NPC,MAP <name>[,USER <user id>]!

[I.56041]

UTL:FRM xy,SEQ ww:QRY,<parameter>,{NPC [s]abc[-[t]def]|\RT ffff|DL ffff}!

[I.56041]

UTL:FRM xy,SEQ ww:QRY,<parameter>,{NPC uvmnp[-wxkqr]|\RT ffff|DL ffff}!

[I.53091]

UTL:FRM xy,SEQ ww:QRY,NPCTG rrr[-sss]!

[I.53051]

UTL:FRM xy,SEQ ww:QRY,OPT[, {TYPE mn|ALL}],NPCS!

[I.53105]

UTL:FRM xy,SEQ ww:QRY,{PEST|FAIL|OOS},COMMON!

[I.53103]

UTL:FRM xy,SEQ ww:QRY,{PEST|FAIL|OOS}[,UNIT [q]q]!

[I.51151]

UTL:FRM xy,SEQ ww:QRY,PMSCHED,{NPC [s]abc[-[t]def]|ALL}!

[I.51151]

UTL:FRM xy,SEQ ww:QRY,PMSCHED,{NPC uvmnp[-wxkqr]|ALL}!

[I.56511]

UTL:FRM xy,SEQ ww:QRY,PSTATE,UNIT [q]q!

[I.52081]

UTL:FRM xy,SEQ ww:QRY,ROLL,DS0,{NPC [s]abc[-[t]def]|ALL[,UNIT [q]q]}!

[I.52081]

UTL:FRM xy,SEQ ww:QRY,ROLL,DS0,{NPC uvmnp[-wxkqr]|ALL[,UNIT [q]q]}!

[I.52091]

UTL:FRM xy,SEQ ww:QRY,ROLL,DS1,{NPC [s]abc[-[t]def]|ALL[,UNIT [q]q]}!

[I.52091]

UTL:FRM xy,SEQ ww:QRY,ROLL,DS1,{NPC uvmnp[-wxkqr]|ALL[,UNIT [q]q]}!

[I.52311]

UTL:FRM xy,SEQ ww:QRY,{RTMAP|DLMAP}[ ffff]!

[I.52511]

UTL:FRM xy,SEQ ww:QRY,SCON,CH,TO [s]abcddd[-eee]!

[I.52511]

UTL:FRM xy,SEQ ww:QRY,SCON,CH,TO uvmnpddd[-eee]!

[I.52521]

UTL:FRM xy,SEQ ww:QRY,SCON,TO [s]abcddd[/ff]!

[I.52521]

UTL:FRM xy,SEQ ww:QRY,SCON,TO uvmnpddd[/ff]!

[I.54001]

UTL:FRM xy,SEQ ww:QRY,SCR,{LINK j[mm[-jnn]]|USER <user id>|\LINKS|USERS}!

[I.52501]

UTL:FRM xy,SEQ ww:QRY,SECH,TO [s]abcddd[-eee]!

[I.52501]

UTL:FRM xy,SEQ ww:QRY,SECH,TO uvmnpddd[-eee]!

[I.52601]

UTL:[FRM xy,SEQ ww]:QRY,SIGST abcd

[I.52601]

UTL:[FRM xy,SEQ ww]:QRY,SIGST uvmnpddd

[I.51131]

UTL:FRM xy,SEQ ww:QRY,SQN!

[I.52531]

UTL:FRM xy,SEQ ww:QRY,SRHDW,TO [s]abcddd[/ff]!

[I.52531]

UTL:FRM xy,SEQ ww:QRY,SRHDW,TO uvmnpddd[/ff]!

[I.56501]

UTL:FRM xy,SEQ ww:QRY,SR00F,{TO [s]abcddd[-eee]|ALL}!

[I.56501]

UTL:FRM xy,SEQ ww:QRY,SR00F,{TO uvmnpddd[-eee]|ALL}!

[I.54340]

**UTL:FRM xy,SEQ ww:QRY,STATE,ACO!**

[I.56311]

**UTL:[FRM xy,SEQ ww]:QRY,STATE,NPC [s]abc[-[t]def]!**

[I.56311]

**UTL:[FRM xy,SEQ ww]:QRY,STATE,NPC uvmnp[-wxkqr]!**

[I.56314]

**UTL:FRM xy,SEQ ww:QRY,STATE,NPC [s]abc[-[t]def]!**

[I.56314]

**UTL:FRM xy,SEQ ww:QRY,STATE,NPC uvmnp[-wxkqr]!**

[I.52321]

**UTL:FRM xy,SEQ ww:QRY[,STATE],SCDG,{NPC [s]abc|RT ffff|\  
DL ffff|ALL}!**

[I.52321]

**UTL:FRM xy,SEQ ww:QRY[,STATE],SCDG,{NPC uvmnp|RT ffff|\  
DL ffff|ALL}!**

[I.56301]

**UTL:FRM xy,SEQ ww:QRY,STATE,SYNC!**

[I.56361]

**UTL:FRM xy,SEQ ww:QRY,STATE,UNIT [q]q,DS3 c[-d]!**

[I.55113]

**UTL:FRM xy,SEQ ww:QRY,STR,LINK j[mm][-jnn]!**

[I.55201]

**UTL:FRM xy,SEQ ww:QRY,STR,SYNC a!**

[I.55311]

**UTL:FRM xy,SEQ ww:QRY,STR,SYNC a,TLI m!**

[I.55321]

**UTL:FRM xy,SEQ ww:QRY,STR,SYNC a,TLI m,SSP b!**

[I.55191]

**UTL:FRM xy,SEQ ww:QRY,STR,XC a!**

[I.53001]

**UTL:FRM xy,SEQ ww:QRY,SYNC,TYPE!**

[I.53081]

UTL:FRM xy,SEQ ww:QRY,TGS mmm[-nnn]!

[I.52041]

UTL:[FRM xy,SEQ ww]:QRY,TO [s]abcddd[-eee]!

[I.52041]

UTL:[FRM xy,SEQ ww]:QRY,TO uvmnpddd[-eee]!

[I.52061]

UTL:FRM xy,SEQ ww:QRY,TO [s]abc!

[I.52061]

UTL:FRM xy,SEQ ww:QRY,TO uvmnp!

[I.51071]

UTL:FRM xy,SEQ ww:QRY,TOD,CFA!

[I.53061]

UTL:FRM xy,SEQ ww:QRY,TPS!

[I.53161]

UTL:FRM xy,SEQ ww:QRY,TSIG,NPC [s]abc[-[t]def]!

[I.53161]

UTL:FRM xy,SEQ ww:QRY,TSIG,NPC uvmnp[-wxkqr]!

[I.53071]

UTL:FRM xy,SEQ ww:QRY,UNIT [q]q,FTMI b[,EQL]!

[I.51041]

UTL:FRM xy,SEQ ww:QRY,WHO!

[I.55181]

UTL:FRM xy,SEQ ww:QRY,XCSB[,UNIT [q]q]!

[I.51081]

UTL:FRM xy,SEQ ww:RCY,PASSWD!

[I.51141]

UTL:FRM xy,SEQ ww:SCHED,PMREPT,NPC [s]abc[-[t]def],RI rrrrr,ST ssss,NI nn,\  
<parameter>,LV llllllllll,LOCN locn,AI aaaaa,TOF ttttt[-ooooo]\  
[,LK p[vv][ q[vv]]]!

[I.51141]

UTL:FRM xy,SEQ ww:SCHED,PMREPT,NPC uvmnp[-wxkqr],RI rrrrr,ST ssss,NI nn,\  
<parameter>,LV llllllllll,LOCN locn,AI aaaaa,TOF ttttt[-ooooo]\  
[,LK p[vv][ q[vv]]]!

[I.51011]

UTL:FRM xy,SEQ ww:[TOD hrnsc][,{CFA|FAC X'abcdef|PRIM X'ghij|MONDAT}]!

[I.55731]

UTL:[FRM xy,SEQ ww]:UPGRD!

## Numeric Command Summary

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[I.11001]

**TCON:**[FRM xy,SEQ ww]:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\  
<tc>[,trnk][,AIS][,{CUS|INCL}][,RDC][,PRIOUT]!

[I.11001]

**TCON:**[FRM xy,SEQ ww]:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\  
<tc>[,trnk][,AIS][,{CUS|INCL}][,RDC][,PRIOUT]!

[I.11011]

**TCON:**FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC][,{CUS|INCL}][,PRIOUT]!

[I.11011]

**TCON:**FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][,{CUS|INCL}][,PRIOUT]!

[I.11021]

**TCON:**FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\  
MPM(fmd,tmd),<tc>[,NTR m][,RDC][,{CUS|INCL}]!

[I.11021]

**TCON:**FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\  
MPM(fmd,tmd),<tc>[,NTR m][,RDC][,{CUS|INCL}]!

[I.11101]

**OCON:**FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\  
<tc>[,RDC][,{CUS|INCL}][,PRIOUT]!

[I.11101]

**OCON:**FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\  
<tc>[,RDC][,{CUS|INCL}][,PRIOUT]!

[I.11121]

**OCON:**FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\  
MPM(fmd,tmd),<tc>[,{CUS|INCL}][,RDC]!

[I.11121]

**OCON:**FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\  
MPM(fmd,tmd),<tc>[,{INCL|CUS}][,RDC]!

[I.11131]

**OCON:**FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC][,{CUS|INCL}][,PRIOUT]!

[I.11131]

**OCON:**FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][,{CUS|INCL}][,PRIOUT]!

[I.12001]

TCNT:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\  
<tc>[,trnk][,AIS][,{CUS|INCL}][,RDC][,PRIOUT]!

[I.12001]

TCNT:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\  
<tc>[,trnk][,AIS][,{CUS|INCL}][,RDC][,PRIOUT]!

[I.12021]

TCNT:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\  
MPM(fmd,tmd),<tc>[,NTR m][,RDC][,{CUS|INCL}]!

[I.12021]

TCNT:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\  
MPM(fmd,tmd),<tc>[,NTR m][,RDC][,{CUS|INCL}]!

[I.12031]

TCNT:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC][,{CUS|INCL}][,PRIOUT]!

[I.12031]

TCNT:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][,{CUS|INCL}][,PRIOUT]!

[I.12101]

OCNT:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\  
<tc>[,RDC][,{CUS|INCL}][,PRIOUT]!

[I.12101]

OCNT:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\  
<tc>[,RDC][,{CUS|INCL}][,PRIOUT]!

[I.12121]

OCNT:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\  
MPM(fmd,tmd),<tc>[,,{CUS|INCL}][,RDC]!

[I.12121]

OCNT:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\  
MPM(fmd,tmd),<tc>[,,{INCL|CUS}][,RDC]!

[I.12131]

OCNT:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC]\  
[,,{CUS|INCL}][,PRIOUT]!

[I.12131]

OCNT:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC]\  
[,,{CUS|INCL}][,PRIOUT]!

[I.13001]

**BCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],\  
TOX ([t]ghijjj[, [t]klmnnn,...]),<tc>[, {NTR|LPD|CONV}]\  
[, {CUS|INCL}][,RDC]!**

[I.13001]

**BCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],\  
TOX (wxkqrjjj[,edhfgnnn,...]),<tc>[, {NTR|LPD|CONV}]\  
[, {CUS|INCL}][,RDC]!**

[I.13002]

**BCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\  
,<tc>[, {NTR|LPD|CONV}][, {CUS|INCL}][,RDC]!**

[I.13002]

**BCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\  
,<tc>[, {NTR|LPD|CONV}][, {CUS|INCL}][,RDC]!**

[I.13011]

**BCON:FRM xy,SEQ ww:FROM [s]abc,TOX ([t]def[, [u]ghi]\  
[, [v]jkl][...])[,RDC][, {CUS|INCL}][, {NTR|LPD|CONV}]!**

[I.13011]

**BCON:FRM xy,SEQ ww:FROM uvmnp,TOX (wxkqr[,edfhg]\  
[,stmno][,...])[,RDC][, {CUS|INCL}][, {NTR|LPD|CONV}]!**

[I.13021]

**BCON:FRM xy,SEQ ww:FROM [s]abc,TO [t]def[,RDC][, {CUS|INCL}]\  
[, {NTR|LPD|CONV}]!**

[I.13021]

**BCON:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][, {CUS|INCL}]\  
[, {NTR|LPD|CONV}]!**

[I.14001]

**ACON:FRM xy,SEQ ww:OLD [s]abcddd,NEW [t]ghijjj[,INCL]!**

[I.14001]

**ACON:FRM xy,SEQ ww:OLD uvmnpddd,NEW wxkqrjjj[,INCL]!**

[I.14021]

**SW:FRM xy,SEQ ww:BCAST,OLD [s]abcddd[-eee],NEW [t]ghijjj\  
[-kkk][,INCL]**

[I.14021]

**SW:FRM xy,SEQ ww:BCAST,OLD uvmnpddd[-eee],NEW wxkqrjjj\  
[-kkk][,INCL]**



[I.14031]  
SW:FRM xy,SEQ ww:ROLL,OLD [s]abcddd[-eee],NEW [t]ghijjj[-kkk]\  
[,INCL][,FRC][,00S]

[I.14031]  
SW:FRM xy,SEQ ww:ROLL,OLD uvmnpddd[-eee],NEW wxkqrjjj[-kkk]\  
[,INCL][,FRC][,00S]

[I.14041]  
SW:FRM xy,SEQ ww:DISC [s]abcddd[-eee][,00S]

[I.14041]  
SW:FRM xy,SEQ ww:DISC uvmnpddd[-eee][,00S]

[I.14061]  
SW:FRM xy,SEQ ww:BCAST,OLD [s]abc,NEW [t]ghi[,INCL]

[I.14061]  
SW:FRM xy,SEQ ww:BCAST,OLD uvmnp,NEW wxkqr[,INCL]

[I.14071]  
SW:FRM xy,SEQ ww:ROLL,OLD [s]abc,NEW [t]ghi[,INCL][,FRC]\  
[,00S][,TWAY]

[I.14071]  
SW:FRM xy,SEQ ww:ROLL,OLD uvmnp,NEW wxkqr[,INCL][,FRC]\  
[,00S][,TWAY]

[I.14081]  
SW:FRM xy,SEQ ww:DISC [s]abc[,00S]

[I.14081]  
SW:FRM xy,SEQ ww:DISC uvmnp[,00S]

[I.15001]  
TDIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\  
[,INCL][,00S][,DCC][,PRIOUT]!

[I.15001]  
TDIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\  
[,INCL][,00S][,DCC][,PRIOUT]!

[I.15002]  
TDIS:FRM xy,SEQ ww:FROM [s]abcddd,TO [t]ghijjj[,INCL][,00S]\  
[,DCC]!

[I.15002]

**TDIS:FRM xy,SEQ ww:FROM uvmnpddd,TO wxkqrjjj[,INCL][,OOS]\**  
**[,DCC]!**

[I.15011]

**TDIS:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,OOS][,INCL][,PRIOUT]!**

[I.15011]

**TDIS:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,OOS][,INCL][,PRIOUT]!**

[I.15101]

**ODIS:FRM xy,SEQ ww:FROM [s]abcdddd[-eee],TO [t]ghijjj[-kkk]\**  
**[,INCL][,OOS][,DCC][,PRIOUT]!**

[I.15101]

**ODIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\**  
**[,INCL][,OOS][,DCC][,PRIOUT]!**

[I.15102]

**ODIS:FRM xy,SEQ ww:FROM [s]abcdddd[-eee],TO [t]ghijjj[-kkk]\**  
**[,INCL][,OOS][,DCC]!**

[I.15102]

**ODIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\**  
**[,INCL][,OOS][,DCC]!**

[I.15111]

**ODIS:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,OOS][,INCL][,PRIOUT]!**

[I.15111]

**ODIS:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,OOS][,INCL][,PRIOUT]!**

[I.15201]

**BDIS:FRM xy,SEQ ww:FROM [s]abcdddd[-eee],TO [t]ghijjj[-kkk]\**  
**[,CONV][,OOS][,DCC][,INCL]!**

[I.15201]

**BDIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\**  
**[,CONV][,OOS][,DCC][,INCL]!**

[I.15211]

**BDIS:FRM xy,SEQ ww:FROM [s]abcdddd[-eee],\**  
**TOX ([t]ghijjj[, [u]klmnn . . .)][,CONV][,OOS][,DCC][,INCL]!**

[I.15211]

**BDIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],\**  
**TOX (wxkqrjjj[,edhfgnnn, . . .)][,CONV][,OOS][,DCC][,INCL]!**

[I.15221]  
**BDIS:FRM xy,SEQ ww:FROM [s]abc,\**  
**TOX ([t]ghi[, [u]jkl[, [v]mno][...])[, OOS][, INCL][, CONV]!**

[I.15221]  
**BDIS:FRM xy,SEQ ww:FROM uvmnp,\**  
**TOX (wxqqr[, edhfg[, opqrs][...])[, OOS][, INCL][, CONV]!**

[I.15231]  
**BDIS:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[, OOS][, INCL][, CONV]!**

[I.15231]  
**BDIS:FRM xy,SEQ ww:FROM uvmnp,TO wxqqr[, OOS][, INCL][, CONV]!**

[I.17001]  
**CHG:[FRM xy,SEQ ww]:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\**  
**[,NOT [u]rstvvv],{TLA|TLR} {F|T|B|L|G|A}[, INCL]!**

[I.17001]  
**CHG:[FRM xy,SEQ ww]:FROM uvmnpddd[-eee],TO wxqqrjjj[-kkk]\**  
**[,NOT edhfgvvv],{TLA|TLR} {F|T|B|L|G|A}[, INCL]!**

[I.17002]  
**CHG:FRM xy,SEQ ww:FROM [s]abcddd,TO [t]ghijjj[, TLP(snn,smm)]\**  
**[,NG nn][,ES ee][, INCL]!**

[I.17002]  
**CHG:FRM xy,SEQ ww:FROM uvmnpddd,TO wxqqrjjj\**  
**[, TLP(snn,smm)][,NG nn][,ES ee][, INCL]!**

[I.17011]  
**CHG:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,NOT [u]rst],\**  
**{TLA|TLR} {F|T|B|A}[, INCL]!**

[I.17011]  
**CHG:FRM xy,SEQ ww:FROM uvmnp,TO wxqqr[,NOT edhfg],\**  
**{TLA|TLR} {F|T|B|A}[, INCL]!**

[I.18001]  
**CHG:FRM xy,SEQ ww:SWCH,TOX([s]abcddd[, [t]ghijjj,\**  
**[u]klmnnn,...))[, INCL]!**

[I.18001]  
**CHG:FRM xy,SEQ ww:SWCH,TOX(uvmnpddd[,wxqqrjjj,edhfgnnn,...))\**  
**[, INCL]!**

[I.18011]  
**CHG:FRM xy,SEQ ww:SWCH,TOX([s]ghi[, [t]jkl][, [v]mno][...])\**  
**[,INCL]!**

[I.18011]  
**CHG:FRM xy,SEQ ww:SWCH,TOX(uvmnp[,wxkqr][,edhfg][...])\**  
**[,INCL]!**

[I.19001]  
**ED:FRM xy,SEQ ww:{MACRO <macro name>|MAP <map name>}!**

[I.19031]  
**ED:FRM xy,SEQ ww:CRET,MAP <new map name>\**  
**,PIC <reference map name>!**

[I.19041]  
**APPEND[:FRM xy,SEQ ww:{<line number>|END}]]!**

[I.19051]  
**DELETE[:FRM xy,SEQ ww:{<starting line>|END}[-{<ending line>\**  
**|END}]]!**

[I.19061]  
**LIST[:FRM xy,SEQ ww:{<starting line>|END}[-{<ending line>|\**  
**END}]]!**

[I.19071]  
**LINE[:FRM xy,SEQ ww:]!**

[I.19081]  
**SAVE[:FRM xy,SEQ ww:]!**

[I.19091]  
**MOVE:FRM xy,SEQ ww:FROM {<starting line>|END}\**  
**[-{<ending line>|END}],TO {<destination line>|END}!**

[I.19101]  
**SECH:FRM xy,SEQ ww:TO [s]abcddd[-eee],{DS0A rr|DS0B nn}\**  
**[,{SEC|PCH[ ppp]}]!**

[I.19101]  
**SECH:FRM xy,SEQ ww:TO uvmnpddd[-eee],{DS0A rr|DS0B nn}\**  
**[,{SEC|PCH[ ppp]}]!**

[I.19111]  
**SECH:FRM xy,SEQ ww:TO [s]abcddd[-eee],RATE rr[,DP]\**  
**[,PCH[ ppp]]!**

[I.19111]

SECH:FRM xy,SEQ ww:TO uvmnpddd[-eee],RATE rr[,DP]\  
[,PCH[ ppp]]!

[I.19151]

SDCH:FRM xy,SEQ ww:TO [s]abcdddd[-eee][,PCH[ ppp]][,DCC]!

[I.19151]

SDCH:FRM xy,SEQ ww:TO uvmnpddd[-eee][,PCH[ ppp]][,DCC]!

[I.19201]

SCON:FRM xy,SEQ ww:RATE rr[,TPT],FROM [s]abcdddd[/ff],\  
TO [t]ghijjj[/ll]!

[I.19201]

SCON:FRM xy,SEQ ww:RATE rr[,TPT],FROM uvmnpddd[/ff],\  
TO wxkqrjjj[/ll]!

[I.19211]

SCON:FRM xy,SEQ ww:RATE rr,[TPT,]FROM [s]abcdddd-eee[/01],\  
TO [t]ghijjj-kkk[/01]!  
SCON:FRM xy,SEQ ww:RATE rr,[TPT,]FROM [s]abcdddd/ff-mm,\  
TO [t]ghijjj/ll-nn!

[I.19211]

SCON:FRM xy,SEQ ww:RATE rr,[TPT,]FROM uvmnpddd-eee[/01],\  
TO wxkqrjjj-kkk[/01]!  
SCON:FRM xy,SEQ ww:RATE rr,[TPT,]FROM uvmnpddd/ff-mm,\  
TO wxkqrjjj/ll-nn!

[I.19221]

SCON:FRM xy,SEQ ww:[RATE rr,]MPTM [s]abcdddd[/ff],MJU ssss\  
[,MA(tttt,u)]  
[,<branch>][,<branch>][,<branch>][,<branch>]!

[I.19221]

SCON:FRM xy,SEQ ww:[RATE rr,]MPTM uvmnpddd[/ff],MJU ssss\  
[,MA(tttt,u)][,<branch>][,<branch>][,<branch>][,<branch>]!

[I.19301]

SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM [s]abcdddd[/ff],\  
TO [t]ghijjj[/ll]!

[I.19301]

SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM uvmnpddd[/ff],\  
TO wxkqrjjj[/ll]!

[I.19311]  
SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM [s]abcddd-eee[/01],\  
TO [t]ghijjj-kkk[/01]!

[I.19311]  
SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM [s]abcddd/ff-mm,\  
TO [t]ghijjj/ll-nn!

[I.19311]  
SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM uvmnpddd-eee[/01],\  
TO wxqrrjjj-kkk[/01]!

[I.19311]  
SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM uvmnpddd/ff-mm,\  
TO wxqrrjjj/ll-nn!

[I.19321]  
SCNT:FRM xy,SEQ ww:[RATE rr,]MPTM [s]abcddd[/ff],MJU ssss\  
[,MA(tttt,u)],<branch>[,<branch>][,<branch>][,<branch>]!

[I.19321]  
SCNT:FRM xy,SEQ ww:[RATE rr,]MPTM uvmnpddd[/ff],MJU ssss\  
[,MA(tttt,u)],<branch>[,<branch>][,<branch>][,<branch>]!

[I.19401]  
SDIS:FRM xy,SEQ ww:[RATE rr[,TPT],] FROM [s]abcddd[/ff],\  
TO [t]ghijjj[/ll]!

[I.19401]  
SDIS:FRM xy,SEQ ww:[RATE rr[,TPT],] FROM uvmnpddd[/ff],\  
TO wxqrrjjj[/ll]!

[I.19411]  
SDIS:FRM xy,SEQ ww:[RATE rr,][TPT,] FROM [s]abcddd{-eee[/01]}\  
/ff-mm},TO [t]ghijjj{-kkk[/01]}[/ll-nn]!

[I.19411]  
SDIS:FRM xy,SEQ ww:[RATE rr,][TPT,] FROM uvmnpdd{-eee[/01]}\  
/ff-mm},TO wxqrrjjj{-kkk[/01]}[/ll-nn]!

[I.19421]  
SDIS:FRM xy,SEQ ww:[RATE rr,]MPTM [s]abcddd[/ff],MJU ssss,\  
<branch>[,<branch>][,<branch>][,<branch>]!

[I.19421]  
SDIS:FRM xy,SEQ ww:[RATE rr,]MPTM uvmnpddd[/ff],MJU ssss,\  
<branch>[,<branch>][,<branch>][,<branch>]!

[I.19431]

**SDIS:FRM xy,SEQ ww:[RATE rr,]MPTM [s]abcddd[/ff],MJU ssss \**  
**[,ALL]!**

[I.19431]

**SDIS:FRM xy,SEQ ww:[RATE rr,]MPTM uvmnpddd[/ff],MJU ssss \**  
**[,ALL]!**

[I.19501]

**CHG:FRM xy,SEQ ww:SECH,OLD [s]abcddd[-eee],NEW [t]ghijjj\**  
**[-kkk][,PCH ppp][,DCC]!**

[I.19501]

**CHG:FRM xy,SEQ ww:SECH,OLD uvmnpddd[-eee],NEW wxkqrjjj[-kkk]\**  
**[,PCH ppp][,DCC]!**

[I.19551]

**CHG:FRM xy,SEQ ww:{TLA|TLR} m,TO [s]abcddd[/ff]!**

[I.19551]

**CHG:FRM xy,SEQ ww:{TLA|TLR} m,TO uvmnpddd[/ff]!**

[I.19561]

**CHG:FRM xy,SEQ ww:{TLA|TLR} m,TO [s]abcddd[/ff],MJU ssss\**  
**[,BRi]!**

[I.19561]

**CHG:FRM xy,SEQ ww:{TLA|TLR} m,TO uvmnpddd[/ff],MJU ssss\**  
**[,BRi]!**

[I.19581]

**CHG:FRM xy,SEQ ww:SCON,OLD [s]abcddd[/ff],NEW [t]ghijjj[/ll]!**

[I.19581]

**CHG:FRM xy,SEQ ww:SCON,OLD uvmnpddd[/ff],NEW wxkqrjjj[/ll]!**

[I.19591]

**CHG:FRM xy,SEQ ww:SCON,OLD [s]abcddd[/ff],NEW [t]ghijjj[/ll],\**  
**MPTM!**

[I.19591]

**CHG:FRM xy,SEQ ww:SCON,OLD uvmnpddd[/ff],NEW wxkqrjjj[/ll],\**  
**MPTM!**

[I.19601]

**STST:FRM xy,SEQ ww:MON[,TO [s]abcddd[/ff]],TP kk!**

[I.19601]

**STST:FRM xy,SEQ ww:MON[,TO uvmnpddd[/ff]],TP kk!**

[I.19621]

**STST:FRM xy,SEQ ww:MON,TO [s]abcddd[/ff],MJU ssss,[BRi,]\**  
**TP kk!**

[I.19621]

**STST:FRM xy,SEQ ww:MON,TO uvmnpddd[/ff],MJU ssss,[BRi,]\**  
**TP kk!**

[I.19631]

**STST:FRM xy,SEQ ww:SPL[,TO [s]abcddd[/ff]],TP kk!**

[I.19631]

**STST:FRM xy,SEQ ww:SPL[,TO uvmnpddd[/ff]],TP kk!**

[I.19651]

**STST:FRM xy,SEQ ww:SPL,TO [s]abcddd[/ff],MJU ssss,[BRi,],TP kk!**

[I.19651]

**STST:FRM xy,SEQ ww:SPL,TO uvmnpddd[/ff],MJU ssss,[BRi,],TP kk!**

[I.19661]

**STST:FRM xy,SEQ ww:{TLA|TLR} m,TP kk!**

[I.19671]

**STST:FRM xy,SEQ ww:TPR,TP kk!**

[I.19681]

**STST:FRM xy,SEQ ww:TPR,{ALL|LINKS}!**

[I.20001]

**CTST:FRM xy,SEQ ww:<tmode>,FAD ([s]abc[, [t]def]),FROM [u]ghi\  
[,TO [v]jkl][,AIS][,INCL]!**

[I.20001]

**CTST:FRM xy,SEQ ww:<tmode>,FAD (uvmnp[,wxkqr]),FROM eghij\  
[,TO jklmn][,AIS][,INCL]!**

[I.20031]

**CTST:FRM xy,SEQ ww:HUB,FAD [s]abc,TO [t]jkl[,INCL]!**

[I.20031]

**CTST:FRM xy,SEQ ww:HUB,FAD uvmnp,TO wxkqr[,INCL]!**



[I.20101]  
**CTST:FRM xy,SEQ ww:<tmode>,FAD ([s]abc[, [t]def))[,AIS][,INCL]!**

[I.20101]  
**CTST:FRM xy,SEQ ww:<tmode>,FAD (uvmnp[,wxkqr))[,AIS][,INCL]!**

[I.20111]  
**CTST:FRM xy,SEQ ww:FAD ([s]abc[, [t]def))\  
{[,EMODE <emode>][,FMODE <fmode>]}[,INCL];**

[I.20111]  
**CTST:FRM xy,SEQ ww:FAD (uvmnp[,wxkqr))\  
{[,EMODE <emode>][,FMODE <fmode>]}[,INCL];**

[I.20201]  
**CTST:FRM xy,SEQ ww:TNR,FAD [s]abc[,00S]!**  
**CTST:FRM xy,SEQ ww:TNR,FAD ([s]abc[, [t]def))[,00S]!**

[I.20201]  
**CTST:FRM xy,SEQ ww:TNR,FAD uvmnp[,00S]!**  
**CTST:FRM xy,SEQ ww:TNR,FAD (uvmnp[,wxkqr))[,00S]!**

[I.20202]  
**CTST:FRM xy,SEQ ww:TNR,ALL[,00S]!**

[I.20301]  
**CTST:FRM xy,SEQ ww:LPBKT,FAD [s]abc[,INCL]!**

[I.20301]  
**CTST:FRM xy,SEQ ww:LPBKT,FAD uvmnp[,INCL]!**

[I.21001]  
**TTST:FRM xy,SEQ ww:MON[,TO [t]ghijjj)][,<tc>],TP kk!**

[I.21001]  
**TTST:FRM xy,SEQ ww:MON[,TO uvmnpjjj)][,<tc>],TP kk!**

[I.21021]  
**TTST:FRM xy,SEQ ww:MON,TO [t]ghi(jjj[-kkk][,lll,...))[,<tc>],\  
TG mmm!**

[I.21021]

TTST:FRM xy,SEQ ww:MON,TO wxkqr(jjj[-kkk][,lll,...])[,<tc>],\  
TG mmm!

[I.21031]

TTST:FRM xy,SEQ ww:MON,TG mmm!

[I.23001]

TTST:FRM xy,SEQ ww:SPL,TP kk!

[I.23021]

TTST:FRM xy,SEQ ww:SPL,TG mmm!

[I.23021]

TTST:FRM xy,SEQ ww:SPL,TG mmm[,NOYLW]!

[I.24001]

TTST:FRM xy,SEQ ww:HUB,<tc>,TO [t]ghijjj,TP kk!

[I.24001]

TTST:FRM xy,SEQ ww:HUB,<tc>,TO uvmnpjjj,TP kk!

[I.24021]

TTST:FRM xy,SEQ ww:HUB,TO ([s]abcddd,[t]ghijjj),TG mmm[,<tc>]!

[I.24021]

TTST:FRM xy,SEQ ww:HUB,TO (uvmnpddd,wxkqrjjj),TG mmm[,<tc>]!

[I.25101]

TTST:FRM xy,SEQ ww:TLA m[,NOT [t]rstvvv],TP kk!

[I.25101]

TTST:FRM xy,SEQ ww:TLA m[,NOT uvmnpvvv],TP kk!

[I.25121]

TTST:FRM xy,SEQ ww:TLA m,TG mmm!

[I.25501]

TTST:FRM xy,SEQ ww:TLR m[,NOT [t]rstvvv],TP kk!

[I.25501]

TTST:FRM xy,SEQ ww:TLR m[,NOT uvmnpvvv],TP kk!

[I.25521]

TTST:FRM xy,SEQ ww:TLR m,TG mmm!

[I.26101]  
TTST:FRM xy,SEQ ww:RT ffff,{DGA|DGB|DGC|DGD|DGP},\  
LLB[, {TO|FROM}],{INI|TRM|ALW|INH}!

[I.26141]  
OPR:FRM xy,SEQ ww:LPBK loop,NPC [s]abc,LOCN locn!

[I.26141]  
OPR:FRM xy,SEQ ww:LPBK loop,NPC uvmnp,LOCN locn!

[I.26151]  
RLS:FRM xy,SEQ ww:LPBK loop,NPC [s]abc,LOCN locn!

[I.26151]  
RLS:FRM xy,SEQ ww:LPBK loop,NPC uvmnp,LOCN locn!

[I.27001]  
TTST:FRM xy,SEQ ww:TPR,TP kk[,00S]!

[I.27002]  
TTST:FRM xy,SEQ ww:TPR,ALL[,00S]!

[I.27021]  
TTST:FRM xy,SEQ ww:TGR,TG mmm[-nnn][,00S]!

[I.28101]  
OPR:FRM xy,SEQ ww:TSIG test,NPC [s]abc!

[I.28101]  
OPR:FRM xy,SEQ ww:TSIG test,NPC uvmnp!

[I.28201]  
RLS:FRM xy,SEQ ww:TSIG test,NPC [s]abc!

[I.28201]  
RLS:FRM xy,SEQ ww:TSIG test,NPC uvmnp!

[I.29001]  
TTST:FRM xy,SEQ ww:LPD,TP kk,<tc>!

[I.29021]  
TTST:FRM xy,SEQ ww:LPD,TG mmm[,<tc>]!

[I.30101]  
GRTH:FRM xy,SEQ ww:FRAME fg[,CHAR m][,UID <uid>]!

[I.31101]

GRTH:FRM xy,SEQ ww:SYNC,TB,TYPE TBpqr!

[I.31111]

GRTH:FRM xy,SEQ ww:SYNC,TLI 3,TYPE TBpqr!

[I.31121]

GRTH:FRM xy,SEQ ww:SYNC,TLI m,\  
{TYPE texyz,SSP a,SRC p|TYPE TDxyz}!

[I.31211]

GRTH:FRM xy,SEQ ww:UNIT q[,TYPE utxyz]\  
[,CONN(a[,b[,c[,d[,e [,f]]]]]])]!

[I.31211]

GRTH:FRM xy,SEQ ww:UNIT [q]q[,TYPE utxyz]!

[I.31321]

GRTH:FRM xy,SEQ ww:UNIT [q]q,FTMI d,EQL(l,r)!

[I.31331]

GRTH:[FRM xy,SEQ ww]:NPC [s]abc[-[t]def],TYPE mnxyz!

[I.31331]

GRTH:[FRM xy,SEQ ww]:NPC uvmnp[-wxkqr],TYPE mnxyz!

[I.31341]

GRTH:FRM xy,SEQ ww:NPC [s]abc[-[t]def],TYPE mnxyz[,OPTS(rr/m\  
[,rr/m][...))][,IW X'pq[,INCL]][,AIS {INFO|MJ|MN}][,PL {ENA|DSA}]!

[I.31341]

GRTH:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],TYPE mnxyz[,OPTS(rr/m\  
[,rr/m][...))][,IW X'pq[,INCL]][,AIS {INFO|MJ|MN}][,PL {ENA|DSA}]!

[I.31351]

GRTH:FRM xy,SEQ ww:NPC [s]abc,TYPE mnxyz!

[I.31351]

GRTH:FRM xy,SEQ ww:NPC uvmnp,TYPE mnxyz!

[I.31352]

GRTH:FRM xy,SEQ ww:NPC [s]abc[-[t]def][,TYPE mnxyz]\  
[,OPTS(rr/m[,rr/m][,...))][,IW X'pq[,INCL]][,AIS {INFO|MJ|MN}]!

[I.31352]

GRTH:FRM xy,SEQ ww:NPC uvmnp[-uvkqr][,TYPE mnxyz]\  
[,OPTS(rr/m[,rr/m][,...))][,IW X'pq[,INCL]][,AIS {INFO|MJ|MN}]!

[I.31371]  
GRTH:FRM xy,SEQ ww:NPC [s]abc[-[t]def],TYPE DSxyz \  
[,OPTS(rr/m [,rr/m][...]))[,IW X'pq]!

[I.31371]  
GRTH:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],TYPE DSxyz \  
[,OPTS(rr/m [,rr/m][...]))[,IW X'pq]!

[I.31381]  
GRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTP n!

[I.31381]  
GRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTP n!

[I.31401]  
GRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTG rrr!

[I.31401]  
GRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTG rrr!

[I.31411]  
GRTH:FRM xy,SEQ ww:TP kk[,<tc>]!

[I.31421]  
GRTH:FRM xy,SEQ ww:TG mmm,NPCTG (rrr,eee[-fff];sss,www[-xxx])\  
[,<tc>]!

[I.31501]  
GRTH:FRM xy,SEQ ww:UNIT [q]q,MIU c[-d][,TYPE mnxyz]!

[I.31511]  
GRTH:FRM xy,SEQ ww:UNIT [q]q,MXR c[-d]\  
[,TYPE mnxyz][,BERM s][,BERT t][,LBO <b>]!

[I.31521]  
COPY:FRM xy,SEQ ww:NPC [s]abc,TO [t]def[-[u]ghi]!

[I.31521]  
COPY:FRM xy,SEQ ww:NPC uvmnp,TO wxkqr[-ghikl]!

[I.32101]  
DGRTH:FRM xy,SEQ ww:SYNC,TB!

[I.32121]  
DGRTH:FRM xy,SEQ ww:SYNC,TLI m[,SSP a]!

[I.32211]

**DGRTH:FRM xy,SEQ ww:UNIT [q]q!**

[I.32321]

**DGRTH:FRM xy,SEQ ww:UNIT [q]q,FTMI d!**

[I.32341]

**DGRTH:FRM xy,SEQ ww:NPC [s]abc[-[t]def]!**

[I.32341]

**DGRTH:FRM xy,SEQ ww:NPC uvmnp[-uvkqr]!**

[I.32381]

**DGRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTP n[,TPR]!**

[I.32381]

**DGRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTP n[,TPR]!**

[I.32401]

**DGRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTG rrr[,TGR]!**

[I.32401]

**DGRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTG rrr[,TGR]!**

[I.32411]

**DGRTH:FRM xy,SEQ ww:TP kk!**

[I.32421]

**DGRTH:FRM xy,SEQ ww:TG mmm[-nnn]!**

[I.32501]

**DGRTH:FRM xy,SEQ ww:UNIT [q]q,MXR c[-d]!**

[I.32511]

**DGRTH:FRM xy,SEQ ww:UNIT [q]q,MIU c[-d]!**

[I.33001]

**RMV:FRM xy,SEQ ww:MC!**

[I.33011]

**RMV:FRM xy,SEQ ww:LINK j!**

[I.33101]

**RMV:FRM xy,SEQ ww:SYNC a!**

[I.33111]

**RMV:FRM xy,SEQ ww:SYNC,TLI 3,CRO!**

[I.33121]  
**RMV:FRM xy,SEQ ww:SYNC a,TLI m[,SSP b]!**

[I.33201]  
**RMV:FRM xy,SEQ ww:CCNI s!**

[I.33202]  
**RMV:FRM xy,SEQ ww:CCB sf!**

[I.33211]  
**RMV:FRM xy,SEQ ww:{SMEM|PMEM}!**

[I.33221]  
**RMV:FRM xy,SEQ ww:TSI sft!**

[I.33231]  
**RMV:FRM xy,SEQ ww:TSIS,CCN s,UNIT q\  
[,CONN(a[,b[,c[,d[,e[,f]]]]))]]!**

[I.33241]  
**RMV:FRM xy,SEQ ww:TSIS,CCN s,ALL!**

[I.33251]  
**RMV:FRM xy,SEQ ww:CCI s!**

[I.33261]  
**RMV:FRM xy,SEQ ww:ETSI sqq!**

[I.33271]  
**RMV:FRM xy,SEQ ww:ETSYS,ECCN s,ALL!**

[I.33311]  
**RMV:FRM xy,SEQ ww:UNIT [q]q,UC!**

[I.33321]  
**RMV:FRM xy,SEQ ww:UNIT [q]q,{FTMI d|DSPI}!**

[I.33331]  
**RMV:FRM xy,SEQ ww:UNIT [q]q,FC sb!**

[I.33351]  
**RMV:[FRM xy,SEQ ww]:NPC [s]abc[-[t]def][,SIDE s][,INCL]!**

[I.33351]  
**RMV:[FRM xy,SEQ ww]:NPC uvmnp[-uvkqr][,SIDE s][,INCL]!**

[I.33401]

**RMV:FRM xy,SEQ ww:UNIT [q]q,FLI k!**

[I.33411]

**RMV:FRM xy,SEQ ww:UNIT [q]q,FMT s!**

[I.33421]

**RMV:FRM xy,SEQ ww:UNIT [q]q,MMFG c[-d][,FRC[,INCL]]!**

[I.33431]

**RMV:FRM xy,SEQ ww:UNIT [q]q,MIU c[-d][,INCL]!**

[I.33481]

**RMV:FRM xy,SEQ ww:{RT|DL} ffff!**

[I.34001]

**RST:FRM xy,SEQ ww:MC[, {MCOND|NOJRN|FRC}]!**

[I.34001]

**RST:FRM xy,SEQ ww:MC,CLR[,ALL]!**

[I.34011]

**RST:FRM xy,SEQ ww:LINK j!**

[I.34101]

**RST:FRM xy,SEQ ww:SYNC a!**

[I.34111]

**RST:FRM xy,SEQ ww:SYNC,TLI 3,CRO!**

[I.34121]

**RST:FRM xy,SEQ ww:SYNC a,TLI m[,SSP b]!**

[I.34201]

**RST:FRM xy,SEQ ww:CCNI s!**

[I.34202]

**RST:FRM xy,SEQ ww:CCB sf!**

[I.34211]

**RST:FRM xy,SEQ ww:{PMEM|SMEM[{,CLR[,FRC][,BKGRND]}]}!**

[I.34221]

**RST:FRM xy,SEQ ww:TSI sft!**



[I.34231]  
**RST:FRM xy,SEQ ww:TSIS,CCN s,UNIT q \**  
**[,CONN(a[,b[,c[,d[,e[,f]]]])))]!**

[I.34241]  
**RST:FRM xy,SEQ ww:TSIS,CCN s,ALL!**

[I.34251]  
**RST:FRM xy,SEQ ww:CCI s!**

[I.34261]  
**RST:FRM xy,SEQ ww:ETSI sqq!**

[I.34271]  
**RST:FRM xy,SEQ ww:ETSI,ECN s,ALL!**

[I.34311]  
**RST:FRM xy,SEQ ww:UNIT [q]q,UC!**

[I.34321]  
**RST:FRM xy,SEQ ww:UNIT [q]q,{FTMI d|DSPI}!**

[I.34331]  
**RST:FRM xy,SEQ ww:UNIT [q]q,FC sb!**

[I.34351]  
**RST:[FRM xy,SEQ ww]:NPC [s]abc[-[t]def][,SIDE s]!**

[I.34351]  
**RST:[FRM xy,SEQ ww]:NPC uvmp[-uvkqr][,SIDE s]!**

[I.34401]  
**RST:FRM xy,SEQ ww:UNIT [q]q,FLI k!**

[I.34411]  
**RST:FRM xy,SEQ ww:UNIT [q]q,FMT s!**

[I.34421]  
**RST:FRM xy,SEQ ww:UNIT [q]q,MMFG c[-d][,INCL]!**

[I.34431]  
**RST:FRM xy,SEQ ww:UNIT [q]q,MIU c[-d][,INCL]!**

[I.34481]  
**RST:FRM xy,SEQ ww:{RT|DL} ffff!**

[I.35001]

**CFR:FRM xy,SEQ ww:XC s[,INCL]!**

[I.35011]

**CFR:FRM xy,SEQ ww:SYNC a,FPLL!**

[I.35012]

**CFR:FRM xy,SEQ ww:SYNC,STRATUM {STR2|STR3}!**

[I.35013]

**CFR:FRM xy,SEQ ww:SYNC,{MASTER|SLAVED}!**

[I.35021]

**CFR:FRM xy,SEQ ww:FRAME!**

[I.35101]

**SW:FRM xy,SEQ ww:UNIT [q]q,FLI,TOPTN!**

[I.35105]

**SW:FRM xy,SEQ ww:UNIT [q]q,FLI,TOSRVC!**

[I.35111]

**SW:FRM xy,SEQ ww:UNIT [q]q,MMFG c,TOPTN[,FRC]!**

[I.35121]

**SW:FRM xy,SEQ ww:UNIT [q]q,MMFG c,TOSRVC!**

[I.35301]

**ALWSW:FRM xy,SEQ ww:UNIT [q]q,MMFG c[-d],{TOPTN|TOSRVC}!**

[I.35311]

**INHSW:FRM xy,SEQ ww:UNIT [q]q,MMFG c[-d],{TOPTN|TOSRVC}!**

[I.36001]

**ADD:FRM xy,SEQ ww:LINK j,PTCOL {S|X|T|M}[,BAUD bb][,ALM k]\  
[,BS e][,ENQ q][,XON x][,INIT]!**

[I.36001]

**ADD:FRM xy,SEQ ww:LINK j,PTCOL S[,BAUD bb][,ALM k]\  
[,BS e][,ENQ q][,XON x][,INIT]!**

[I.36001]

**ADD:FRM xy,SEQ ww:LINK j,PTCOL X[,ALM k][,INIT]!**

[I.36001]

**ADD:FRM xy,SEQ ww:LINK j,PTCOL T[,BAUD bb][,ALM k][,INIT]!**

[I.36001]

ADD:FRM xy,SEQ ww:LINK j,PTCOL M[,ALM k][,INIT]!

[I.36003]

ADD:FRM xy,SEQ ww:LINK j[,K b][,T1 ee][,T3 ggg][,N2 aa]\  
[,FRMAD {A|B}]!

[I.36005]

ADD:FRM xy,SEQ ww:LINK j[mm][,W c][,P ddd][,T20 iii]\  
[,T22 jjj][,T23 kkk][,T25 lll][,T26 mmm][,R20 nn]\  
[,R22 p][,R23 qq][,R25 r][,DBIT v][,VC(ppss,gghh)]!

[I.36007]

ADD:FRM xy,SEQ ww:LINK j,APPL {ASCS|ASCD|PM}[,L2AD aa]\  
[,POLL ttt]!

[I.36021]

ADD:FRM xy,SEQ ww:NPC {[s]abc-[t]def|[s]abc[, [s]ghi]...\  
[, [t]def]}!

[I.36021]

ADD:FRM xy,SEQ ww:NPC {uvmnp-wxkqr|uvmnp[,edfgh]...\  
[,wxkqr]}!

[I.36101]

ADD:FRM xy,SEQ ww:USER <user id>[,NEW][,PASSWD <user password>]!

[I.36101]

ADD:FRM xy,SEQ ww:USER <user id>[,NEW]!

[I.36103]

ADD:FRM xy,SEQ ww:{USER <user id>|LINK j[mm][,INCL]|ALL}\  
[,LANG {M|P|F}][,NPCAD {E|X|H}][,LEV(a,b,c,d,e,f)]\  
[, {RMON|RMOFF}][,RLK {A|I}][,INIT]!

[I.36201]

ADD:FRM xy,SEQ ww:{RT|DL} ffff,MD g[g]\  
[,DGA [s]aaa][,DGB [s]bbb][,DGC [s]ccc][,DGD [s]ddd]\  
[,DGP[s]ppp][,{sss|NDL|RTF}]!

[I.36201]

ADD:FRM xy,SEQ ww:{RT|DL} ffff,MD g[g][,DGA uvjab]\  
[,DGB uvkcd][,DGC uvlef][,DGD uvmgh][,DGP uvjpr]\  
[, {sss|NDL|RTF}]!

[I.37001]

**DLT:FRM xy,SEQ ww:NPC {[s]abc-[t]def|[s]abc[, [s]ghi]...\  
[, [t]def]}!**

[I.37001]

**DLT:FRM xy,SEQ ww:NPC {uvmnp-wxkqr|uvmnp[, abcde]...[, wxkqr]}!**

[I.37101]

**DLT:FRM xy,SEQ ww:USER <user id>!**

[I.37201]

**DLT:FRM xy,SEQ ww:{MACRO <macro name>|MAP <map name>}\  
[, USER <user id>}!**

[I.37211]

**DLT:FRM xy,SEQ ww:{RT|DL} ffff[, DGA [s]aaa][, DGB [s]bbb]\  
[, DGC [s]ccc][, DGD [s]ddd][, DGP [s]ppp]!**

[I.37211]

**DLT:FRM xy,SEQ ww:{RT|DL} ffff\  
[, DGA uvjab][, DGB uvkcd][, DGC uvlef][, DGD uvmgh]\  
[, DGP uvjpr]!**

[I.37301]

**DLT:FRM xy,SEQ ww:FPKG nnnnnnnn!**

[I.38011]

**CHG:FRM xy,SEQ ww:SYNC, TLI m, SSP b, TYPE texyz!**

[I.38011]

**CHG:FRM xy,SEQ ww:SYNC,\  
TLI, SRC(i/(a,b)[, j/(c,d)[, k/(e,f)[, l/(g,h)]])!]**

[I.38101]

**CHG:FRM xy,SEQ ww:UNIT q, CONN(a[, b[, c[, d[, e[, f]]]]))!**

[I.38111]

**CHG:FRM xy,SEQ ww:UNIT [q]q, FTMI d, EQL(l, r)!**

[I.38201]

**CHG:FRM xy,SEQ ww:SETOP rr, {TYPE mn|ALL}, NPCOP(set1, set2, set3)!**

[I.38211]

**CHG:FRM xy,SEQ ww:NPC [s]abc, TYPE mnxyz[, IW X'pq[, INCL]]!**

[I.38211]

**CHG:FRM xy,SEQ ww:NPC uvmnp, TYPE mnxyz[, IW X'pq[, INCL]]!**

[I.38221]  
**CHG:FRM xy,SEQ ww:NPC [s]abc,OPTS(rr/m[,rr/m][...])!**

[I.38221]  
**CHG:FRM xy,SEQ ww:NPC uvmnp,OPTS(rr/m[,rr/m][...])!**

[I.38231]  
**CHG:FRM xy,SEQ ww:TYPE mnxyz,OPTS(rr/m[,rr/m][...])!**

[I.38241]  
**CHG:FRM xy,SEQ ww:{NPC [s]abc|RT ffff|DL ffff|TYPE mnxyz},\  
OPTS(rr/m[,rr/m,...])!**

[I.38241]  
**CHG:FRM xy,SEQ ww:{NPC uvmnp|RT ffff|DL ffff|TYPE mnxyz},\  
OPTS(rr/m[,rr/m,...])!**

[I.38251]  
**CHG:FRM xy,SEQ ww:HUBID 0'ab!**

[I.38261]  
**CHG:FRM xy,SEQ ww:ECLOC,TYPE {MJU|SRM}!**

[I.38271]  
**CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]def],TYPE mnxyz[,IW X'pq[,INCL]]!**

[I.38271]  
**CHG:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],TYPE mnxyz[,IW X'pq[,INCL]]!**

[I.38281]  
**CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]ghi],\  
{ALMOPT|PLOPT},{AIS {INFO|MJ|MN}|PL {ENA|DSA}}!**

[I.38281]  
**CHG:FRM xy,SEQ ww:NPC uvmnp[-wxkqr],\  
{ALMOPT|PLOPT},{AIS {INFO|MJ|MN}|PL {ENA|DSA}}!**

[I.38301]  
**CHG:FRM xy,SEQ ww:PASSWD[,OLD <old password>, \  
NEW <new password>]!**

[I.38301]  
**CHG:FRM xy,SEQ ww:PASSWD!**  
    **OLD PASSWD:** (user enters the old password)  
    **NEW PASSWD:** (user enters the new password)  
    **PASSWD:** (user re-enters the new password for verification)

[I.38351]

**CHG:FRM xy,SEQ ww:{RT|DL} ffff,TO gggg!**

[I.38361]

**CHG:FRM xy,SEQ ww:RT ffff,[{sss|RTF}][,SWMN x]!**

[I.38401]

**CHG:FRM xy,SEQ ww:{USER <user id>|LINK j[mm][,INCL]}\  
[,SCR n[,GR(a,b,c,d,e,f)]][, {MCON|MCOFF}][,INIT]!**

[I.38401]

**CHG:FRM xy,SEQ ww:{RT|DL} ffff,{ZCS|B8ZS}!**

[I.38501]

**CHG:FRM xy,SEQ ww:{MACRO|MAP},SPACE sss!**

[I.38601]

**CHG:FRM xy,SEQ ww:UNIT [q]q,DS3 c[-d][,BERM s][,BERT t]\  
[,LBO <b>][,TYPE mnxyz]!**

[I.38611]

**CHG:[FRM xy,SEQ ww]:DS3UNPROTALM {ON|OFF}!**

[I.39001]

**LOGIN:FRM xy,SEQ ww:USER <user id>[,PASSWD <user password>]!**

[I.39001]

**LOGIN:FRM xy,SEQ ww:USER <user id>!  
PASSWD: <user enters the user password>**

[I.39101]

**LOGOFF:FRM xy,SEQ ww:{USER <user id>|LINK j[mm][,INCL]}!**

[I.39201]

**ACT:FRM xy,SEQ ww:MAP <map name>[,CLR][,INCL]!**

[I.39301]

**EXC:FRM xy,SEQ ww:MACRO <macro name>[,(<p1>[,<p2>[,<p3>\  
[,...[,<p10>]]]])]!**

[I.39311]

**STOP:FRM xy,SEQ ww:MACRO[,LINK l[mm]]!**

[I.39401]  
**SW:FRM xy,SEQ ww:{NPC [s]abc|RT ffff,xxx},\**  
**{PSW|USW|ALW|INH}[ ,FRC][ ,INCL]!**

[I.39401]  
**SW:FRM xy,SEQ ww:{NPC uvmp|RT ffff,xxx},\**  
**{PSW|USW|ALW|INH}[ ,FRC][ ,INCL]!**

[I.41001]  
**DGN:FRM xy,SEQ ww:MC[ ,CFT X'vwxy]!**

[I.41011]  
**DGN:FRM xy,SEQ ww:LINK a[ ,CFT X'vwxy]!**

[I.41021]  
**DGN:FRM xy,SEQ ww:MP[ ,CFT X'vwxy]!**

[I.41031]  
**DGN:FRM xy,SEQ ww:CI[ ,CFT X'vwxy]!**

[I.41051]  
**DGN:[FRM xy,SEQ ww]:{PMEM|SMEM}[ ,{CFT X'vwxy|EXCT|DBASE}][ ,VERIFY]!**

[I.41101]  
**DGN:FRM xy,SEQ ww:SYNC a!**

[I.41111]  
**DGN:FRM xy,SEQ ww:SYNC,TLI 3,CRO!**

[I.41121]  
**DGN:FRM xy,SEQ ww:SYNC a,TLI m[ ,SSP b]!**

[I.41201]  
**DGN:FRM xy,SEQ ww:CCNI s[ ,CFT X'vwxy]!**

[I.41211]  
**DGN:FRM xy,SEQ ww:CCB sf[ ,CFT X'vwxy]!**

[I.41221]  
**DGN:FRM xy,SEQ ww:TSI sft[ ,CFT X'vwxy]!**

[I.41232]  
**DGN:FRM xy,SEQ ww:TSIS,CCN s,UNIT q,\**  
**[ ,CONN(a[ ,b[ ,c[ ,d[ ,e[ ,f]]]])))]!**

[I.41241]  
**DGN:FRM xy,SEQ ww:TSIS,CCN s,ALL!**

[I.41251]

DGN:FRM xy,SEQ ww:CCI s[,CFT X'vwxy]!

[I.41261]

DGN:FRM xy,SEQ ww:ETSI sqq[,CFT X'vwxy]!

[I.41271]

DGN:FRM xy,SEQ ww:ETSI, ECCN s, ALL!

[I.41311]

DGN:FRM xy,SEQ ww:UNIT [q]q,UC[,CFT X'vwxy]!

[I.41321]

DGN:FRM xy,SEQ ww:UNIT [q]q,FTMI d[,CFT X'vwxy]!

[I.41331]

DGN:FRM xy,SEQ ww:UNIT [q]q,FC sb[,CFT X'vwxy]!

[I.41341]

DGN:FRM xy,SEQ ww:UNIT [q]q,DSPI[,CFT X'vwxy]!

[I.41351]

DGN:[FRM xy,SEQ ww]:NPC [s]abc[,SIDE s][,CFT X'vwxy]!

[I.41351]

DGN:[FRM xy,SEQ ww]:NPC uvmnp[,SIDE s][,CFT X'vwxy]!

[I.41361]

DGN:[FRM xy,SEQ ww]:NPC [s]abc-[t]def!

[I.41361]

DGN:[FRM xy,SEQ ww]:NPC uvmnp-uvkqr!

[I.41401]

DGN:FRM xy,SEQ ww:UNIT [q]q,FLI k[,CFT X'vwxy]!

[I.41411]

DGN:FRM xy,SEQ ww:UNIT [q]q,FMT s[,CFT X'vwxy]!

[I.41421]

DGN:FRM xy,SEQ ww:UNIT [q]q,MXR c[,DEV devc[,CFT X'vwxy]]!

[I.41431]

DGN:FRM xy,SEQ ww:UNIT [q]q,MIU c[,CFT X'vwxy]!

[I.51001]

UTL:[FRM xy,SEQ ww]:QRY, MEMSTAT!



[I.51011]  
UTL:FRM xy,SEQ ww:[TOD hrmsnc][,{CFA|FAC X'abcdef|PRIM X'ghij|MONDAT}}]!

[I.51021]  
UTL:FRM xy,SEQ ww:DATE <new-date>[,FORMAT ggg][,INT ii]!

[I.51031]  
UTL:FRM xy,SEQ ww:QRY,DATE!

[I.51041]  
UTL:FRM xy,SEQ ww:QRY,WHO!

[I.51071]  
UTL:FRM xy,SEQ ww:QRY,TOD,CFA!

[I.51081]  
UTL:FRM xy,SEQ ww:RCY,PASSWD!

[I.51091]  
UTL:FRM xy,SEQ ww:QRY,CNFR!

[I.51101]  
UTL:FRM xy,SEQ ww:INIT,ALM a!

[I.51111]  
UTL:FRM xy,SEQ ww:ACO!

[I.51121]  
UTL:FRM xy,SEQ ww:QRY,FPKG!

[I.51131]  
UTL:FRM xy,SEQ ww:QRY,SQL!

[I.51141]  
UTL:FRM xy,SEQ ww:SCHED,PMREPT,NPC [s]abc[-[t]def],RI rrrrr,ST ssss,NI nn,\  
<parameter>,LV llllllllll,LOCN locn,AI aaaaa,TOF ttttt[-ooooo]\  
[,LK p[vv][ q[vv]]]!

[I.51141]  
UTL:FRM xy,SEQ ww:SCHED,PMREPT,NPC uvmnp[-wxkqr],RI rrrrr,ST ssss,NI nn,\  
<parameter>,LV llllllllll,LOCN locn,AI aaaaa,TOF ttttt[-ooooo]\  
[,LK p[vv][ q[vv]]]!

[I.51151]  
UTL:FRM xy,SEQ ww:QRY,PMSCHED,{NPC [s]abc[-[t]def]|ALL}!

[I.51151]  
**UTL:FRM xy,SEQ ww:QRY,PMSCHED,{NPC uvmnp[-wxkqr]|ALL}!**

[I.51161]  
**INH:FRM xy,SEQ ww:PMREPT,{NPC [s]abc[-[t]def]|ALL}!**

[I.51161]  
**INH:FRM xy,SEQ ww:PMREPT,{NPC uvmnp[-wxkqr]|ALL}!**

[I.51171]  
**ALW:FRM xy,SEQ ww:PMREPT,{NPC [s]abc[-[t]def]|ALL}!**

[I.51171]  
**ALW:FRM xy,SEQ ww:PMREPT,{NPC uvmnp[-wxkqr]|ALL}!**

[I.51501]  
**UTL:FRM xy,SEQ ww:QRY,HUBID!**

[I.51511]  
**UTL:FRM xy,SEQ ww:QRY,ECLOC!**

[I.52011]  
**UTL:[FRM xy,SEQ ww]:QRY,CMAP [s]abc[-[t]def]!**

[I.52011]  
**UTL:[FRM xy,SEQ ww]:QRY,CMAP uvmnp[-wxkqr]!**

[I.52031]  
**UTL:[FRM xy,SEQ ww]:QRY,DMAP!**

[I.52041]  
**UTL:[FRM xy,SEQ ww]:QRY,TO [s]abcddd[-eee]!**

[I.52041]  
**UTL:[FRM xy,SEQ ww]:QRY,TO uvmnpddd[-eee]!**

[I.52051]  
**UTL:FRM xy,SEQ ww:QRY,FROM [s]abcddd[-eee]!**

[I.52051]  
**UTL:FRM xy,SEQ ww:QRY,FROM uvmnpddd[-eee]!**

[I.52061]  
**UTL:FRM xy,SEQ ww:QRY,TO [s]abc!**

[I.52061]  
**UTL:FRM xy,SEQ ww:QRY,TO uvmnp!**

[I.52071]  
UTL:FRM xy,SEQ ww:QRY, FROM [s]abc!

[I.52071]  
UTL:FRM xy,SEQ ww:QRY, FROM uvmnp!

[I.52081]  
UTL:FRM xy,SEQ ww:QRY,ROLL,DS0,{NPC [s]abc[-[t]def]|ALL[,UNIT [q]q]}!

[I.52081]  
UTL:FRM xy,SEQ ww:QRY,ROLL,DS0,{NPC uvmnp[-wxkqr]|ALL[,UNIT [q]q]}!

[I.52091]  
UTL:FRM xy,SEQ ww:QRY,ROLL,DS1,{NPC [s]abc[-[t]def]|ALL[,UNIT [q]q]}!

[I.52091]  
UTL:FRM xy,SEQ ww:QRY,ROLL,DS1,{NPC uvmnp[-wxkqr]|ALL[,UNIT [q]q]}!

[I.52101]  
UTL::QRY,BCAST,ALL!

[I.52111]  
UTL:FRM xy,SEQ ww:QRY,BCAST, FROM [s]abcddd!

[I.52111]  
UTL:FRM xy,SEQ ww:QRY,BCAST, FROM uvmnpddd!

[I.52121]  
UTL:FRM xy,SEQ ww:QRY,BCAST, FROM [s]abc!

[I.52121]  
UTL:FRM xy,SEQ ww:QRY,BCAST, FROM uvmnp!

[I.52201]  
UTL:FRM xy,SEQ ww:QRY,MARK [s]abc[-[t]def]!

[I.52201]  
UTL:FRM xy,SEQ ww:QRY,MARK uvmnp[-wxkqr]!

[I.52211]  
UTL:FRM xy,SEQ ww:QRY,MARK [s]abcjjj[-kkk]!

[I.52211]  
UTL:FRM xy,SEQ ww:QRY,MARK uvmnpjjj[-kkk]!

[I.52311]  
UTL:FRM xy,SEQ ww:QRY,{RTMAP|DLMAP}[ ffff]!

[I.52321]

**UTL:FRM xy,SEQ ww:QRY[,STATE],SCDG,{NPC [s]abc|RT ffff|\  
DL ffff|ALL}!**

[I.52321]

**UTL:FRM xy,SEQ ww:QRY[,STATE],SCDG,{NPC uvmnp|RT ffff|\  
DL ffff|ALL}!**

[I.52501]

**UTL:FRM xy,SEQ ww:QRY,SECH,TO [s]abcddd[-eee]!**

[I.52501]

**UTL:FRM xy,SEQ ww:QRY,SECH,TO uvmnpddd[-eee]!**

[I.52511]

**UTL:FRM xy,SEQ ww:QRY,SCON,CH,TO [s]abcddd[-eee]!**

[I.52511]

**UTL:FRM xy,SEQ ww:QRY,SCON,CH,TO uvmnpddd[-eee]!**

[I.52521]

**UTL:FRM xy,SEQ ww:QRY,SCON,TO [s]abcddd[/ff]!**

[I.52521]

**UTL:FRM xy,SEQ ww:QRY,SCON,TO uvmnpddd[/ff]!**

[I.52531]

**UTL:FRM xy,SEQ ww:QRY,SRHDW,TO [s]abcddd[/ff]!**

[I.52531]

**UTL:FRM xy,SEQ ww:QRY,SRHDW,TO uvmnpddd[/ff]!**

[I.52581]

**UTL:FRM xy,SEQ ww:QRY,LOAD,{NPC [s]abc|TOTAL}!**

[I.52581]

**UTL:FRM xy,SEQ ww:QRY,LOAD,{NPC uvmnp|TOTAL}!**

[I.52601]

**UTL:[FRM xy,SEQ ww]:QRY,SIGST abcd**

[I.52601]

**UTL:[FRM xy,SEQ ww]:QRY,SIGST uvmnpddd**

[I.53001]

**UTL:FRM xy,SEQ ww:QRY,SYNC,TYPE!**

[I.53011]  
**UTL:FRM xy,SEQ ww:QRY,EQD,UNITS!**

[I.53021]  
**UTL:FRM xy,SEQ ww:QRY,EQD,TSIS!**

[I.53022]  
**UTL:FRM xy,SEQ ww:QRY,EQD,ETISIS!**

[I.53031]  
**UTL:FRM xy,SEQ ww:QRY,EQD,CONN!**

[I.53041]  
**UTL:FRM xy,SEQ ww:QRY,EQD,NPCS[, {TOTAL|UNIT [q]q}]!**

[I.53051]  
**UTL:FRM xy,SEQ ww:QRY,OPT[, {TYPE mn|ALL}],NPCS!**

[I.53061]  
**UTL:FRM xy,SEQ ww:QRY,TPS!**

[I.53071]  
**UTL:FRM xy,SEQ ww:QRY,UNIT [q]q,FTMI b[,EQL]!**

[I.53081]  
**UTL:FRM xy,SEQ ww:QRY,TGS mmm[-nnn]!**

[I.53091]  
**UTL:FRM xy,SEQ ww:QRY,NPCTG rrr[-sss]!**

[I.53101]  
**UTL:FRM xy,SEQ ww:QRY,ALL[,UNIT [q]q]!**

[I.53103]  
**UTL:FRM xy,SEQ ww:QRY,{PEST|FAIL|OOS}[,UNIT [q]q]!**

[I.53104]  
**UTL:FRM xy,SEQ ww:QRY,ALL,COMMON!**

[I.53105]  
**UTL:FRM xy,SEQ ww:QRY,{PEST|FAIL|OOS},COMMON!**

[I.53108]  
**UTL:FRM xy,SEQ ww:QRY,EQD[,UNIT [q]q]!**

[I.53109]  
**UTL:FRM xy,SEQ ww:QRY,EQD,COMMON!**

[I.53111]

**UTL:FRM xy,SEQ ww:QRY,ALMS!**

[I.53121]

**UTL:FRM xy,SEQ ww:QRY,CS,NPC [s]abc!**

[I.53121]

**UTL:FRM xy,SEQ ww:QRY,CS,NPC uvmnp!**

[I.53131]

**UTL:FRM xy,SEQ ww:QRY,LPBK,NPC [s]abc[-[t]def]!**

[I.53131]

**UTL:FRM xy,SEQ ww:QRY,LPBK,NPC uvmnp[-wxkqr]!**

[I.53141]

**UTL:FRM xy,SEQ ww:QRY,ALMS,{RT|DL} ffff!**

[I.53151]

**UTL:FRM xy,SEQ ww:QRY,ALMS,DBASE!**

[I.53161]

**UTL:FRM xy,SEQ ww:QRY,TSIG,NPC [s]abc[-[t]def]!**

[I.53161]

**UTL:FRM xy,SEQ ww:QRY,TSIG,NPC uvmnp[-wxkqr]!**

[I.53201]

**UTL:FRM xy,SEQ ww:QRY,EQD,MIUS!**

[I.53211]

**UTL:FRM xy,SEQ ww:QRY,EQD,MXRS!**

[I.53221]

**UTL:FRM xy,SEQ ww:QRY,DS3,BERMT[,UNIT [q]q]!**

[I.53231]

**UTL:FRM xy,SEQ ww:QRY,DS3,LB0!**

[I.54001]

**UTL:FRM xy,SEQ ww:QRY,SCR,{LINK j[mm[-jnn]]|USER <user id>|\LINKS|USERS}!**

[I.54011]

**UTL:FRM xy,SEQ ww:QRY,LOG[,ALL]!**

[I.54101]

UTL:FRM xy,SEQ ww:QRY,LIST,MAP <name>[,USER <user id>]!

[I.54111]

UTL:FRM xy,SEQ ww:QRY,NPC,MAP <name>[,USER <user id>]!

[I.54121]

UTL:FRM xy,SEQ ww:QRY,MACRO <name>[,USER <user id>]!

[I.54131]

UTL:FRM xy,SEQ ww:QRY,LIST,MACRO <macro name>\  
[,USER <user id>]!

[I.54201]

UTL:FRM xy,SEQ ww:QRY,MAP,ATTR[, {ALL|USER <user id>|MAPNM <name>}]!

[I.54211]

UTL:FRM xy,SEQ ww:QRY,MACRO,ATTR[, {USER <user id>|ALL}]!

[I.54221]

UTL:FRM xy,SEQ ww:QRY, {MACRO|MAP}, SPACE[, {USER <user id>|ALL|\  
SYSTEM}]!

[I.54340]

UTL:FRM xy,SEQ ww:QRY,STATE,ACO!

[I.55011]

UTL:FRM xy,SEQ ww:QRY,ERR, {SWER|HWER}[, {INT mn|[DATE moda[ce]yr,] TOD hrmsc}}\  
[,TN X'dddd][,EVENT X'eeee][,ERCL{HARD|TRANS|APPINT}][,ENTY <entity>]!

[I.55111]

UTL:FRM xy,SEQ ww:QRY,ESR,MP!

[I.55113]

UTL:FRM xy,SEQ ww:QRY,STR,LINK j[mm][-jnn]!

[I.55181]

UTL:FRM xy,SEQ ww:QRY,XCSB[,UNIT [q]q]!

[I.55191]

UTL:FRM xy,SEQ ww:QRY,STR,XC a!

[I.55201]

UTL:FRM xy,SEQ ww:QRY,STR,SYNC a!

[I.55311]

UTL:FRM xy,SEQ ww:QRY,STR,SYNC a,TLI m!

[I.55321]

**UTL:FRM xy,SEQ ww:QRY,STR,SYNC a,TLI m,SSP b!**

[I.55401]

**UTL:FRM xy,SEQ ww:QRY,ESR,CCN s!**

[I.55411]

**UTL:FRM xy,SEQ ww:QRY,ESR,ECCN s!**

[I.55501]

**UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q!**

[I.55511]

**UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,FTMI d!**

[I.55521]

**UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,FC sb!**

[I.55531]

**UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,DSPI!**

[I.55601]

**UTL:FRM xy,SEQ ww:QRY,ESR,NPC [s]abc[,SIDE s]!**

[I.55601]

**UTL:FRM xy,SEQ ww:QRY,ESR,NPC uvmnp[,SIDE s]!**

[I.55701]

**UTL:FRM xy,SEQ ww:BMTR,FROM <from>,TO <to>[, {EXCT|INCL}]!**

[I.55711]

**ABT!**

[I.55731]

**UTL:[FRM xy,SEQ ww]:UPGRD!**

[I.55801]

**UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,FLI k!**

[I.55811]

**UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,FMT s!**

[I.55821]

**UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,MXR c!**

[I.55831]

**UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,MIU c!**



[I.56001]  
UTL:FRM xy,SEQ ww:CLR,<parameter>,{NPC [s]abc[-[t]def]|\  
RT ffff|DL ffff}!

[I.56001]  
UTL:FRM xy,SEQ ww:CLR,<parameter>,{NPC uvmnp[-wxkqr]|\  
RT ffff|DL ffff}!

[I.56011]  
UTL:FRM xy,SEQ ww:CLR,<parameter>,ALL!

[I.56021]  
UTL:FRM xy,SEQ ww:QRY,ALMOPT,NPC [s]abc[-[v]ghi],AIS!

[I.56021]  
UTL:FRM xy,SEQ ww:QRY,ALMOPT,NPC uvmnp[-wxkqr],AIS!

[I.56031]  
UTL:FRM xy,SEQ ww:QRY,<parameter>,ALL!

[I.56041]  
UTL:FRM xy,SEQ ww:QRY,<parameter>,{NPC [s]abc[-[t]def]|\  
RT ffff|DL ffff}!

[I.56041]  
UTL:FRM xy,SEQ ww:QRY,<parameter>,{NPC uvmnp[-wxkqr]|\  
RT ffff|DL ffff}!

[I.56051]  
UTL:FRM xy,SEQ ww:CLR,NPC [s]abc,PARAMS!

[I.56051]  
UTL:FRM xy,SEQ ww:CLR,NPC uvmnp,PARAMS!

[I.56061]  
UTL:FRM xy,SEQ ww:CLR,ERR,{HWER|SWER}!

[I.56071]  
UTL:FRM xy,SEQ ww:CLR,{NPC [s]abc[-[t]def]|ALL},<parameter>[,AI aaaaa] \  
[,LOCN locn][,MONDAT dddd][,MONTIM tttt]!

[I.56071]  
UTL:FRM xy,SEQ ww:CLR,{NPC uvmnp[-wxkqr]|ALL},<parameter>[,AI aaaaa] \  
[,LOCN locn][,MONDAT dddd][,MONTIM tttt]!

---

## List of Autonomous Messages

# 5

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### Contents

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## List of Autonomous Messages

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### **Autonomous Messages**

This section provides a summary of the autonomous messages that can appear on the DACS II Release 7.0 output printer. The following are the categories of autonomous messages:

- Alarms Messages
- Audits Messages
- Error Recovery Messages
- Event Reporting Messages
- Input Denial Messages
- Scheduled PM Reporting Messages
- Startup Messages

## Alarms Messages

---

[O.65011]

pahh:mm:ss xy,ww AR01 MISC ALM <state> {CGA|LOS} [s]abc \  
[k] COMPL

[O.65011]

pahh:mm:ss xy,ww AR01 MISC ALM <state> {CGA|LOS} uvmnp \  
[k] COMPL

[O.65021]

I hh:mm:ss xy,ww AR01 MISC ALM IDLD {CGA|LOS} [s]abc[ k] COMPL

[O.65021]

I hh:mm:ss xy,ww AR01 MISC ALM IDLD {CGA|LOS} uvmnp[ k] COMPL

[O.65031]

pahh:mm:ss xy,ww ALM {MJ|MN|INFO} <parameter> NPC [s]abc COMPL

[O.65031]

pahh:mm:ss xy,ww ALM {MJ|MN|INFO} <parameter> NPC uvmnp COMPL

[O.65041]

I hh:mm:ss xy,ww ALM IDLD <parameter> NPC [s]abc COMPL

[O.65041]

I hh:mm:ss xy,ww ALM IDLD <parameter> NPC uvmnp COMPL

[O.65051]

\* hh:mm:ss xy,ww ALM RESET {DATE|TOD|TOD DATE} hr:mn:sc \  
{mo/da/yr FORMAT MDY|da/mo/yr FORMAT DMY} COMPL

[O.65053]

\*\*hh:mm:ss xy,ww BOOT FAILED - BAD BOOT DEVICE

[O.65054]

\*\*hh:mm:ss xy,ww ALM {MJ,IDLD} CCN s OOS COMPL

[O.65055]

pahh:mm:ss xy,ww ALM {MJ|IDLD} ECCN s OOS COMPL

[O.65056]

pahh:mm:ss xy,ww ALM {MN|IDLD} SMEM COMPL

[O.65071]

I hh:mm:ss xy,ww ACO ACTIVE COMPL

[O.65131]  
pahh:mm:ss xy,ww SC ALM <state>[ {CGA|DLF|INH|MRV|MSW|PSW}] {RT|DL} \  
ffff {DGA|DGB|DGC|DGD|DGP} [s]abc[ k] <location> COMPL

[O.65131]  
pahh:mm:ss xy,ww SC ALM <state>[ {CGA|DLF|INH|MRV|MSW|PSW}] {RT|DL} \  
ffff {DGA|DGB|DGC|DGD|DGP} uvmnp[ k] <location> COMPL

[O.65141]  
pahh:mm:ss xy,ww SC ALM[ <alarm type>] <state> {RT|DL} \  
ffff[ FE] COMPL

[O.65151]  
I hh:mm:ss xy,ww SC ALM <state> DPLX {SYNC a|CCB sf|CCNI s|\  
CCI s|TSI sft|ETSI sqq|FC sb UNIT [q]q|FMT s UNIT [q]q|\  
NPC [s]abc SIDE s} NE COMPL

[O.65151]  
I hh:mm:ss xy,ww SC ALM <state> DPLX {SYNC a|CCB sf|CCNI s|\  
CCI s|TSI sft|ETSI sqq|FC sb UNIT [q]q|FMT s UNIT [q]q|\  
NPC uvmnp SIDE s} NE COMPL

[O.65161]  
I hh:mm:ss xy,ww SC ALM <state> {MC|UC [q]q|FTMI [q]qb|\  
DSPI [q]q} NE COMPL

[O.65171]  
I hh:mm:ss xy,ww SC ALM COMP <state> RT ffff[ INDX][ LBRV]\  
[ AB][ CD][ P][ ALP] COMPL

[O.66001]  
pahh:mm:ss xy,ww ALM UNIT [q]q DS3 c <state> COMPL

[O.66011]  
I hh:mm:ss xy,ww ALM IDLD UNIT [q]q DS3 c <state> COMPL

## Audits Messages

---

[O.81001]

I hh:mm:ss xy,ww AUD AR02 ALARM SUM nnnn REPORTS FOLLOW:

I hh:mm:ss xy,ww SC ALM <state> CGA [s]abc k COMPL

.  
.  
.

I hh:mm:ss xy,ww SC ALM <state> CGA [s]abc k COMPL

I hh:mm:ss xy,ww AR01 MISC ALM <state> {CGA|CFA|LOS} [s]abc \  
[k] COMPL

.  
.  
.

I hh:mm:ss xy,ww AR01 MISC ALM <state> {CGA|CFA|LOS} [s]abc \  
[k] COMPL

I hh:mm:ss xy,ww AUD {CGA|CFA|LOS} END COMPL

I hh:mm:ss xy,ww AUD PARAMS COMPL

[O.81001]

I hh:mm:ss xy,ww AUD AR02 ALARM SUM nnnn REPORTS FOLLOW:

I hh:mm:ss xy,ww SC ALM <state> CGA uvmnp k COMPL

.  
.  
.

I hh:mm:ss xy,ww SC ALM <state> CGA uvmnp k COMPL

I hh:mm:ss xy,ww AR01 MISC ALM <state> {CGA|CFA|LOS} uvmnp \  
[k] COMPL

.  
.  
.

I hh:mm:ss xy,ww AR01 MISC ALM <state> {CGA|CFA|LOS} uvmnp \  
[k] COMPL

I hh:mm:ss xy,ww AUD {CGA|CFA|LOS} END COMPL

I hh:mm:ss xy,ww AUD PARAMS COMPL

[O.81002]

I hh:mm:ss xy,ww AUD QRY <parameter> ALL FTU NPCS \

[s]abc-[t]def TOT nnn 5 LN MSG:

XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX EOM

.  
.  
.

I hh:mm:ss xy,ww AUD QRY <parameter> ALL FTU NPCS \

[s]abc-[t]def TOT nnn 5 LN MSG:

XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX EOM

I hh:mm:ss xy,ww AUD QRY <parameter> ALL DS3U NPCS \

[s]abc-[t]def TOT nnn 5 LN MSG:

XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX EOM

.  
.  
.

I hh:mm:ss xy,ww AUD QRY <parameter> ALL DS3U NPCS \

[s]abc-[t]def TOT nnn 5 LN MSG:

XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX COMPL

[O.81002]

I hh:mm:ss xy,ww AUD QRY <parameter> ALL FTU NPCS \  
uvmnp-uvmqr TOT nnn 5 LN MSG:

xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx EOM

.  
.  
.

I hh:mm:ss xy,ww AUD QRY <parameter> ALL FTU NPCS \  
uvmnp-uvmqr TOT nnn 5 LN MSG:

xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx EOM

I hh:mm:ss xy,ww AUD QRY <parameter> ALL DS3U NPCS \  
uvmnp-uvmqr TOT nnn 5 LN MSG:

xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx EOM

.  
.  
.

I hh:mm:ss xy,ww AUD QRY <parameter> ALL DS3U NPCS \  
uvmnp-uvmqr TOT nnn 5 LN MSG:

xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx COMPL



[O.81003]

I hh:mm:ss xy,ww AUD QRY BER ALL FTU NPCS [s]abc-[t]def \

TOT nnn 5 LN MSG:

XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX EOM

.  
.  
.

I hh:mm:ss xy,ww AUD QRY BER ALL FTU NPCS [s]abc-[t]def \

TOT nnn 5 LN MSG:

XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX COMPL

[O.81003]

I hh:mm:ss xy,ww AUD QRY BER ALL DS3U NPCS [s]abc-[t]def \

TOT nnn 5 LN MSG:

XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX EOM

.  
.  
.

I hh:mm:ss xy,ww AUD QRY BER ALL DS3U NPCS [s]abc-[t]def \

TOT nnn 5 LN MSG:

XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX COMPL

[O.81003]

I hh:mm:ss xy,ww AUD QRY BER ALL FTU NPCS uvmnp-uvmqr \

TOT nnn 5 LN MSG:

XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX EOM

.  
.  
.

I hh:mm:ss xy,ww AUD QRY BER ALL FTU NPCS uvmnp-uvmqr \

TOT nnn 5 LN MSG:

XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX COMPL

[O.81003]

I hh:mm:ss xy,ww AUD QRY BER ALL DS3U NPCS uvmnp-uvmqr \

TOT nnn 5 LN MSG:

XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX EOM

.  
.  
.

I hh:mm:ss xy,ww AUD QRY BER ALL DS3U NPCS uvmnp-uvmqr \

TOT nnn 5 LN MSG:

XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX COMPL

[O.81004]

I hh:mm:ss xy,ww AUD QRY <parameter> ALL NPCS TOT 000 \  
COMPL

[O.81005]

I hh:mm:ss xy,ww AUD QRY BER ALL NPCS TOT 0000 COMPL

[O.81006]

I hh:mm:ss xy,ww AUD PARAMS COMPL

[O.82001]

I hh:mm:ss xy,ww FRADTS DGN <ttt> <eee>[ DEV <devc>] d0 COMPL

[O.82002]

I hh:mm:ss xy,ww FRADTS FRCMP ttt[ d9 d8 d7 d6] d5 d4 d3 d2 d1 d0 COMPL

[O.82003]

I hh:mm:ss xy,ww FRADTS BMCMP <ttt> d8 d7 d6 d5 d4 d3 d2 d1 COMPL

[O.82004]

I hh:mm:ss xy,ww FRADTS MC DGN <tt> COMPL

## Error Recovery Messages

---

[O.01301]

I hh:mm:ss xy,ww ERR PWR aaaa bbbb cccc dddd TN dddd COMPL

[O.01311]

I hh:mm:ss xy,ww ERR[ ESR] MC[ MP] TN dddd EVENT eeee \  
2 LN MSG:  
abab bbbb cccc dddd eeee ffff COND cc COMPL

[O.01311]

I hh:mm:ss xy,ww ERR[ ESR] MC[ CI] TN dddd EVENT eeee \  
2 LN MSG:  
COND cc COMPL

[O.01311]

I hh:mm:ss xy,ww ERR[ ESR] MC[ {BX|EBX}] TN dddd EVENT eeee \  
2 LN MSG:  
abab bbbb cccc dddd eeee ffff COND cc COMPL

[O.01311]

I hh:mm:ss xy,ww ERR[ ESR] MC[ {MTC|EMTC}] TN dddd \  
EVENT eeee 2 LN MSG:  
abab bbbb cccc dddd eeee ffff gggg hhhh iiii jjjj COND cc \  
COMPL

[O.01312]

I hh:mm:ss xy,ww ERR [ESR] MC [, {MP|CI}] TN dddd COMPL

[O.01321]

I hh:mm:ss xy,ww ERR LINK a TN dddd STATUS a0 a1 a2 COMPL

[O.01331]

I hh:mm:ss xy,ww ERR [ESR] SYNC a TN dddd EVENT eeee \  
2 LN MSG:  
<byte1> <byte2> <byte3> <byte4> <byte5> COND cccc COMPL

[O.01333]

I hh:mm:ss xy,ww ERR SYNC a TLI m SSP b TN dddd 3 LN MSG:  
ALM[ LOS][ LEN][ EXJ][ PHS][ OOF][ MAJ][ MIN] SET  
<byte 1> <byte 2> <byte 3> <byte 4> <byte 5> COND cccc COMPL

[O.01333]

I hh:mm:ss xy,ww ERR SYNC a TLI m SSP b TN dddd 3 LN MSG:  
ALM[ LOS][ LEN][ EXJ][ PHS][ OOF][ MAJ][ MIN] SET  
<byte 1> <byte 2> <byte 3> <byte 4> <byte 5> COND cccc COMPL

[O.01335]  
I hh:mm:ss xy,ww ERR SYNC a TLI m SSP b [NPC abc] \  
TN dddd 3 LN MSG:  
ALM[ LOS][ LEN][ EXJ][ PHS][ OOF][ MAJ][ MIN] CLR  
<byte 1> <byte 2> <byte 3> <byte 4> <byte 5> COND cccc COMPL

[O.01335]  
I hh:mm:ss xy,ww ERR SYNC a TLI m SSP b [NPC uvmp] \  
TN dddd 3 LN MSG:  
ALM[ LOS][ LEN][ EXJ][ PHS][ OOF][ MAJ][ MIN] CLR  
<byte 1> <byte 2> <byte 3> <byte 4> <byte 5> COND cccc COMPL

[O.01337]  
I hh:mm:ss xy,ww ERR MSGS TO LOG DISCARDED COMPL

[O.01341]  
I hh:mm:ss xy,ww ERR[ ESR] SYNC a TLI m SSP b TN dddd \  
EVENT eeee 2 LN MSG:  
<synchronizer status data bytes>[ COND cccc] COMPL

[O.01341]  
I hh:mm:ss xy,ww ERR[ ESR] SYNC a TLI m SSP b TN dddd \  
EVENT eeee 2 LN MSG:  
<synchronizer status data bytes>[ COND cccc] COMPL

[O.01342]  
I hh:mm:ss xy,ww ERR [ESR] SYNC a TLI m TN dddd EVENT eeee \  
2 LN MSG:  
<synchronizer status data bytes> COND cccc COMPL

[O.01351]  
I hh:mm:ss xy,ww ERR [ESR] CCB sf TN dddd EVENT eeee \  
2 LN MSG:  
<error analysis data bytes> COND cc COMPL

[O.01352]  
I hh:mm:ss xy,ww ERR [ESR] CCNI s TN dddd EVENT eeee 2 LN MSG:  
<reg0> <reg1> <reg2> <reg3> <reg4> \  
<emr0> <emr1> <emr2> <emr3> <emr4> COND cc COMPL

[O.01353]  
I hh:mm:ss xy,ww ERR [ESR] TSI sft TN dddd EVENT eeee \  
2 LN MSG:  
<error analysis data> COND cc COMPL

[O.01354]

I hh:mm:ss xy,ww ERR[ ESR] CCI s TN dddd EVENT eeee \  
2 LN MSG:  
wd01 wd02 wd03 wd04 wd05 wd06 wd07 wd08 wd09 wd10 wd11 \  
wd12 COND cc COMPL

[O.01355]

I hh:mm:ss xy,ww ERR[ ESR] ETSI sqq TN dddd EVENT eeee \  
2 LN MSG:  
wd01 wd02 wd03 wd04 wd05 wd06 wd07 wd08 wd09 wd10 wd11 \  
wd12 COND cc COMPL

[O.01361]

I hh:mm:ss xy,ww ERR[ ESR] UNIT [q]q {UC|UBX} TN dddd \  
EVENT eeee 2 LN MSG:  
<error analysis data> COND cc COMPL

[O.01362]

I hh:mm:ss xy,ww ERR {SOFTWARE|MC} <error type> ERROR 4 LN MSG:  
MID=<mid> TN=dddd RC=<rc> ACTION=<action> ENTITY=<entity>  
SOURCE=<source> DP=<dp> PROC=<proc>  
TSARGS=<tsargs> COMPL

[O.01363]

I hh:mm:ss xy,ww ERR[ ESR] UNIT [q]q FTMI b TN dddd \  
EVENT eeee 2 LN MSG:  
<error analysis data> COND cc COMPL

[O.01364]

I hh:mm:ss xy,ww ERR[ ESR] UNIT [q]q FC sb TN dddd \  
EVENT eeee 2 LN MSG:  
<error analysis data> COND cc COMPL

[O.01366]

I hh:mm:ss xy,ww ERR SYNC a MODE {FAST|HOLDOVER|NORMAL}\  
{MATE|CRO|TLI m SSP c} TN dddd 2 LN MSG:  
<synchronizer status data bytes> COND cccc COMPL

[O.01371]

I hh:mm:ss xy,ww ERR[ ESR] NPC [s]abc-[[t]def] SIDE s \  
TN dddd EVENT eeee 2 LN MSG:  
<error analysis data bytes>[ COND cc] COMPL

[O.01371]

I hh:mm:ss xy,ww ERR[ ESR] NPC uvmnp[-uvmqr] SIDE s \  
TN dddd EVENT eeee 2 LN MSG:  
<error analysis data bytes>[ COND cc] COMPL

[O.01372]  
I hh:mm:ss xy,ww ERR[ ESR] NPC [s]abc-[t]def TN dddd \  
EVENT eeee 2 LN MSG:  
<error analysis data bytes>[ COND cc] COMPL

[O.01372]  
I hh:mm:ss xy,ww ERR[ ESR] NPC uvmnp-wxkqr TN dddd \  
2 LN MSG:  
EVENT eeee <error analysis data bytes>[ COND cc] COMPL

[O.01381]

```
**hh:mm:ss xy,ww OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd \
PROCESSOR DATA 5 LN MSG:
<d01> <d02> <d03> <d04> <d05> < d06 > < d07 > < d08 >
<d09> <d10> <d11> <d12> <d13> < d14 > < d15 > < d16 >
<d17> <d18> <d19> <d20> <d21> < d22 > < d23 > < d24 >
<d25> <d26> <d27> <d28> <d29> <d3031> < d3233> < d34353637> \
EOM
```

```
**hh:mm:ss xy,ww OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd \
PROGRAM TEXT 5 LN MSG:
<d01> <d02> <d03> <d04> <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12> <d13> <d14> <d15> <d16>
<d17> <d18> <d19> <d20> <d21> <d22> <d23> <d24>
<d25> <d26> <d27> <d28> <d29> <d30> <d31> <d32> EOM
```

```
**hh:mm:ss xy,ww OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd \
MEMORY DATA 5 LN MSG:
<d01> <d02> <d03> <d04> <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12> <d13> <d14> <d15> <d16>
<d17> <d18> <d19> <d20> <d21> <d22> <d23> <d24>
<d25> <d26> <d27> <d28> <d29> <d30> <d31> <d32> EOM
```

```
**hh:mm:ss xy,ww OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd READY \
QUEUE DATA 3 LN MSG:
<d01> <d02> <d03> <d04> <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12> <d13> <d14> <d15> <d16> EOM
```

```
**hh:mm:ss xy,ww OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd PAUSE \
QUEUE DATA 3 LN MSG:
<d01> <d02> <d03> <d04> <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12> <d13> <d14> <d15> <d16> EOM
```

```
**hh:mm:ss xy,ww OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd \
LOCAL STACK DATA 5 LN MSG:
<d01> <d02> <d03> <d04> <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12> <d13> <d14> <d15> <d16>
<d17> <d18> <d19> <d20> <d21> <d22> <d23> <d24>
<d25> <d26> <d27> <d28> <d29> <d30> <d31> <d32> EOM
```

```
**hh:mm:ss xy,ww OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd STACK \
TRACE 5 LN MSG:
<d01> <d02> <d03> <d04> <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12> <d13> <d14> <d15> <d16>
<d17> <d18> <d19> <d20> <d21> <d22> <d23> <d24>
<d25> <d26> <d27> <d28> <d29> <d30> <d31> <d32> COMPL
```

[O.01391]

```
I hh:mm:ss xy,ww ERR ESR ANALYSIS REPORT EVENT eeee 4 LN MSG:
<action> <circuit identifier>
<action> <circuit identifier>
<action> <circuit identifier> COMPL
```



[O.01392]

I hh:mm:ss xy,ww ERR HARDWARE <entity> 4 LN MSG:  
TN=dddd COND=cc EVENT=xxxx ACTION=<action>  
SOURCE=<source> DP=<dp> PROC=<proc> <load>  
TSARGS=cn [<tsargs>] COMPL

[O.01393]

I hh:mm:ss xy,ww RESET {DATE|TOD|TOD DATE} hr:mn:sc \  
{mo/da/yr FORMAT MDY|da/mo/yr FORMAT DMY} COMPL

[O.01402]

I hh:mm:ss xy,ww ERR[ ESR] UNIT [q]q FMT s TN dddd \  
EVENT eeee 2 LN MSG:  
<error analysis data> COND cc COMPL

[O.01403]

I hh:mm:ss xy,ww ERR[ ESR] UNIT [q]q MXR c[ DEV <devc>] \  
TN dddd EVENT eeee 2 LN MSG:  
<error analysis data> COND cc COMPL

[O.01404]

I hh:mm:ss xy,ww ERR[ ESR] UNIT [q]q MIU c TN dddd \  
EVENT eeee 2 LN MSG:  
<error analysis data> COND cc COMPL

### **Event Reporting Messages**

---

[O.65061]

I hh:mm:ss xy,ww RPT T-<parameter> NPC [s]abc 2 LN MSG:  
LOCN locn AI aaaaa COUNT cccccccc THLEV lllllllll COMPL

[O.65061]

I hh:mm:ss xy,ww RPT T-<parameter> NPC uvmnp 2 LN MSG:  
LOCN locn AI aaaaa COUNT cccccccc THLEV lllllllll COMPL

### **Input Denials Messages**

---

[O.01101]

M hh:mm:ss xy,ww n[vv] {BADVERB|FRMERR|SEQERR} BAD SYNTAX \\  
e LN MSG:  
First 70 characters of input message.  
Remaining text of input message STOPPED

[O.01111]

M hh:mm:ss xy,ww n[vv] CMD MC {OOS|MCOND|INSERVICE|MPDBASE} \\  
e LN MSG:  
<First 70 characters of input message.>  
<Remaining text of input message> STOPPED

[O.01121]

A hh:mm:ss xy,ww ERR CMD ABT [TN abcd] e LN MSG:  
First 70 characters of input message.  
Remaining text of input message STOPPED

[O.01131.01]

M hh:mm:ss xy,ww n[vv] [<BADVERB|FRMERR|SEQERR|CMD>|<actverb>] \\  
[<INERR>] <reason> e LN MSG:  
<First 70 characters of input message.>  
[<Text continued from input message>]  
<Remaining text of input message> {STOPPED|DNY}

## Scheduled PM Reporting Messages

[O.61011]

I hh:mm:ss xy,ww REPT PM e LN MSG:

| NPC    | PARAM | COUNT    | VLDTY | LOCN | AI    | MONDAT | MONTIM   |
|--------|-------|----------|-------|------|-------|--------|----------|
| [s]abc | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| [v]ghi | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm EOM |

I hh:mm:ss xy,ww REPT PM e LN MSG:

| NPC    | PARAM | COUNT    | VLDTY | LOCN | AI    | MONDAT | MONTIM     |
|--------|-------|----------|-------|------|-------|--------|------------|
| [u]jkl | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| [t]def | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm COMPL |

[O.61011]

I hh:mm:ss xy,ww REPT PM e LN MSG:

| NPC   | PARAM | COUNT    | VLDTY | LOCN | AI    | MONDAT | MONTIM   |
|-------|-------|----------|-------|------|-------|--------|----------|
| uvmnp | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| edhfg | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm EOM |

I hh:mm:ss xy,ww REPT PM e LN MSG:

| NPC   | PARAM | COUNT    | VLDTY | LOCN | AI    | MONDAT | MONTIM     |
|-------|-------|----------|-------|------|-------|--------|------------|
| opjst | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| wxkqr | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm COMPL |

## Startup Messages

---

[O.01201]

**\*\*{CI|ECI} RESET**

[O.01211]

**{CI|ECI} STARTUP {STF|ATP}**

[O.01221]

**MP STARTUP {STF|ATP}**

[O.01241]

**BOOT FROM {PMEM|SMEM}**

[O.01242]

**BOOT FROM PMEM FAILED  
ATTEMPTING TO BOOT FROM SMEM**

[O.01251]

**RESET STOPPED**

[O.01261]

**I hh:mm:ss xy,ww n[vv] MC RESET RELEASE DACSIgg.pp ISSUE r \**  
**2 LN MSG:**  
**FPKG kkttuuvv [COND cc] COMPL**

[O.01271]

**BX2 {STF|ATP}**

[O.01272]

**EBX STARTUP {STF|ATP}**

[O.01281]

**MTC {STF|ATP}**

[O.01282]

**EMTC STARTUP {STF|ATP}**

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---

## **ABT — AUD**

---

This section documents the commands **ABT** through **AUD**.

## **ABT**

---

### **ABORT**

#### **Explanation Of Command**

---

The abort command enables a user to stop a currently executing abortable task previously initiated by the same user from continuing execution. This command is helpful to use when a task is producing large amounts of output that the user does not wish to view, or to stop a task that is operating over a range of entities.

If no users are logged in, a command entered on one link CANNOT be aborted from another link. If the same user is logged in on two different links, commands entered from one link CAN be aborted from another link. Only USER DAX can abort commands entered on any link issued by any user.

When an abortable task is operating over a range of entities, DACS II will complete the task on the current entity, and then stop the task for the remaining entities in the specified range. Since the abort command will also delete all messages queued for output for the link or virtual circuit on which the ABT command was entered, the user should use appropriate query commands to determine which entities in the range have been operated upon before the task was stopped.

In the case where a task has already executed, or no task is executing when the abort command is entered, the abort command will not take effect. Any remaining output will not be generated, and DACS II will not generate a completion message or an ABT completion message.

The following commands may be aborted:

- 31341 GRTH::NPC
- 31352 GRTH::NPC
- 31362 GRTH::NPC
- 31363 GRTH::NPC
- 31371 GRTH::NPC
- 32341 DGR::NPC
- 33351 RMV::NPC
- 34351 RST::NPC



38271 CHG::NPC,TYPE (abortable only for DS3 NPCs.)  
38281 CHG::NPC,TYPE,ALMOPT,AIS  
38321 CHG::NPC,TS0  
38323 CHG::NPC,TS0M  
38324 CHG::NPC,NFS  
38341 CHG::NPC,LPBK  
51151 UTL::QRY,PMSCHED  
51161 INH::PMREPT  
51171 ALW::PMREPT  
52011 UTL::QRY,CMAP  
52031 UTL::QRY,DMAP  
52041 UTL::QRY,TO  
52051 UTL::QRY,FROM  
52101 UTL::QRY,BCAST,ALL  
52201 UTL::QRY,MARK  
52211 UTL::QRY,MARK  
52311 UTL::QRY,RTMAP|DLMAP  
52321 UTL::QRY,SCDG,ALL,STATE  
52501 UTL::QRY,SECH,TO  
52511 UTL::QRY,SCON,CH  
52581 UTL::QRY,LOAD  
53041 UTL::QRY,EQD,NPCS  
53101 UTL::QRY,ALL  
53103 UTL::QRY,UNIT  
53104 UTL::QRY,ALL,COMMON  
53105 UTL::QRY,COMMON  
53151 UTL::QRY,ALMS,DBASE  
55011 UTL::QRY,SWER,ERR  
55012 UTL::QRY,HWER,ERR  
55181 UTL::QRY,XCSB  
56021 UTL::QRY,ALMOPT,NPC  
56311 UTL::QRY,STATE,NPC  
56314 UTL::QRY,STATE,NPC  
56321 UTL::QRY,TS0,NPC  
56323 UTL::QRY,TS0M,NPC  
56324 UTL::QRY,NFS,NPC  
56341 UTL::QRY,DD  
56343 UTL::QRY,DD  
56351 UTL::QRY,NPC  
56353 UTL::QRY,BC,NPC  
56501 UTL::QRY,SROOF

---

**Command**

[I.55711]

**ABT !**

### **Completion Message**

---

[O.55711]

M hh:mm:ss xy,ww n[vv] CMD ABT e LN MSG:  
<First 70 characters of aborted command>  
<Remaining text of aborted command> ABT COMPL

### **Denial Message**

---

Not applicable.

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

ABT - Abort

e - Number of lines in the message

## **ACO,ACTIVE**

### **ALARM CUTOFF ACTIVE**

#### **Explanation Of Command**

This output message automatically reports the activation (depressing) of the alarm cutoff (ACO) switch. Activation of this switch silences the audible alarms. The ACO switch will be inactivated when all alarms are retired or when a new alarm appears on the frame. For example, if there is a minor alarm on the frame before the CGA major alarm is induced, when the CGA major alarm is retired by an ACO action, the minor alarm will remain. In this case, there will be a second ACO ACTIVE message.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.65071]

**I hh:mm:ss xy,ww ACO ACTIVE COMPL**

### **Explanation Of Parameters**

---

**ACO** - Alarm cutoff

**ACTIVE** - Active

## **ACON,OLD,NEW,INCL**

### **ALTERNATE CROSS-CONNECTIONS**

#### **Explanation Of Command**

The alternate cross-connection command can only be used with a capacity expansion frame (CEF). This command requests an alternate cross-connection for a channel or a range of channels from one NPC to another NPC through DACS II. It moves circuits from one (OLD) service-carrying digroup to another (NEW) service-carrying digroup. All circuit parameters associated with the circuit on the OLD digroup before the ACON command is executed will be retained with the circuit on the NEW digroup after the ACON command is executed.

The ACON command will create a new connection consistent with existing DACS II cross-connect topologies. The user should make sure that this connection is suitable for the type of traffic intended for the circuit. Test signals may exist on the new digroup. If allowed to remain they will overwrite the signal transferred from the old digroup.



#### **WARNING:**

*Prior to executing this command the user should check to see if any test signals exist on the NEW digroup.*

#### **Command**

#### **Nonhierarchical**

[I.14001]

**ACON:FRM xy,SEQ ww:OLD [s]abcddd,NEW [t]ghijjj[,INCL]!**

### **Hierarchical**

---

[I.14001]

ACON:FRM xy,SEQ ww:OLD uvmnpddd,NEW wxkqrjjj[,INCL]!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.14001]

M hh:mm:ss xy,ww n[vv] ACON [s]abcddd,[t]ghijjj\  
[ INCL] COMPL

### **Hierarchical**

---

[O.14001]

M hh:mm:ss xy,ww n[vv] ACON uvmnpddd,wxkqrjjj[ INCL] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.14001.01]

M hh:mm:ss xy,ww n[vv] ACON [s]abcddd,[t]ghijjj[ INCL][ mmm,nnn] \  
COND cc DNY

### **Hierarchical**

---

[O.14001.01]

M hh:mm:ss xy,ww n[vv] ACON uvmnpddd,wxkqrjjj[ INCL][ mmm,nnn] \  
COND cc DNY

### **Autonomous Message**

---

Not applicable.

### Explanation Of Parameters

**[s]abc** - The 3- or 4-digit nonhierarchical OLD NPC number

**[t]ghi** - The 3- or 4-digit nonhierarchical NEW NPC number

**Note:** Valid types for old and new NPC's are DExyz (except DE9yz) and TExyz (except TE9yz).

If NPC numbers are expressed in three digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical OLD NPC number

**wxkqr** - Hierarchical NEW NPC number



**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

The values are listed below:

DE type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd, jjj**  
- Channel numbers for beginning of channel range

**eee, kkk**  
- Channel numbers for end of channel range  
To connect a range of channels, use the optional fields eee and kkk.

**INCL** - Inclusive  
A circuit designated as a customer controlled circuit or a red circuit cannot be modified without using the inclusive keyword in the message. Also, an NPC which supports these circuits cannot be manually removed unless the INCL keyword is given in the remove message.

**mmm** - The OLD channel number involved in denial (ddd through eee).

**nnn** - The NEW channel number involved in denial (jjj through kkk).

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                  |
|-----------|--------------|---------------------------------------------------------------------|
| <b>1E</b> |              | Customer control or red circuit exists                              |
| <b>01</b> |              | Invalid range for specified NPC type                                |
| <b>10</b> | <b>MCOND</b> | NPC out of service or failed                                        |
| <b>11</b> | <b>MCOND</b> | NPC not equipped                                                    |
| <b>12</b> | <b>MCOND</b> | Active CCN side not IS or failed or pested or hardware OOS          |
| <b>13</b> | <b>MCOND</b> | UNIT not equipped, not in service, or failed                        |
| <b>15</b> | <b>MCOND</b> | FTMI not equipped, not in service, or failed                        |
| <b>16</b> | <b>MCOND</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS |
| <b>18</b> |              | DSPI not equipped, not in service, or failed                        |
| <b>21</b> |              | Trunk conditioning is invalid                                       |

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                     |
|-----------|--------------|------------------------------------------------------------------------|
| <b>32</b> |              | Termination is under test                                              |
| <b>33</b> |              | Termination is a test port                                             |
| <b>80</b> |              | Database conference width does not match the range in input command    |
| <b>1A</b> | <b>MCOND</b> | Required FLI not equipped, not in service, or failed                   |
| <b>1B</b> | <b>MCOND</b> | Required MXR not equipped, not in service, or failed                   |
| <b>1C</b> | <b>MCOND</b> | Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS |
| <b>1D</b> | <b>MCOND</b> | Required MIU not equipped, not in service, or failed                   |
| <b>62</b> | <b>INERR</b> | Invalid channel number                                                 |
| <b>BA</b> |              | Inactive side NPC out of service and inactive side in service          |
| <b>DF</b> |              | Unmatched channel range                                                |
| <b>EC</b> | <b>INERR</b> | Invalid channel 000 cross-connection specified                         |
| <b>70</b> | <b>INERR</b> | NPC invalid type                                                       |
| <b>FF</b> |              | Termination is in process of being rolled                              |
| <b>E0</b> | <b>MCOND</b> | ETSI not equipped, not in service, or failed                           |
| <b>ED</b> |              | OLD termination is not mapped                                          |
| <b>EF</b> |              | Invalid circuit type                                                   |
| <b>F0</b> |              | Range not allowed for circuit type                                     |
| <b>F4</b> |              | OLD and NEW channels cannot be the same                                |
| <b>F5</b> |              | Conference first channel doesn't match input                           |
| <b>F6</b> |              | Leg type mismatch                                                      |
| <b>F7</b> |              | OLD data channel cannot be parity channel type                         |
| <b>F8</b> |              | OLD and NEW Data and Parity channels partially overlap                 |

## **ACT,MAP,CLR,INCL**

### **ACTIVATE ALTERNATE MAPS**

#### **Explanation Of Command**

This command requests the activation of an alternate map.

DACS II will not generate individual completion messages for each successful cross-connection; however, it will generate individual denial messages. Moreover, the individual denial messages will only be output to the link/user where the alternate map command was entered, independent of the output screening level.

When only one end of a TCON is remapped via this command, the trunk conditioning specified for a particular cross-connection when that cross-connection was first established will be applied to a disconnected channel.

#### **Command**

[I.39201]

**ACT:FRM xy,SEQ ww:MAP <map name>[,CLR][,INCL]!**

#### **Completion Message**

#### **Nonhierarchical**

[O.39201]

**M hh:mm:ss xy,ww n[vv] ACT MAP <map name>[ CLR][ INCL]\  
[ NPC [s]abc] COND cc COMPL**

### **Hierarchical**

---

[O.39201]

M hh:mm:ss xy,ww n[vv] ACT MAP <map name>[ CLR][ INCL]\  
[ NPC uvmp] COND cc COMPL

### **Denial Message**

---

### **Nonhierarchical**

---

[O.39201.02]

M hh:mm:ss xy,ww n[vv] ACT MAP <map name>[ CLR][ INCL] \  
2 LN MSG:  
TCON [s]jklddd[-eee],[t]ghijjj[-kkk][ <tc>][ AIS]\  
[ CUS][ INCL][ RDC] COND cc DNY

### **Hierarchical**

---

[O.39201.02]

M hh:mm:ss xy,ww n[vv] ACT MAP <map name>[ CLR][ INCL] \  
2 LN MSG:  
TCON edhfgddd[-eee],wxkqrjjj[-kkk][ <tc>] [AIS]\  
[ CUS|INCL][ RDC] COND cc DNY

### **Common**

---

[O.39201.01]

M hh:mm:ss xy,ww n[vv] ACT MAP <map name>[ CLR][ INCL] \  
COND cc DNY

[O.55703]

M hh:mm:ss xy,ww n[vv] ACT MAP IN PROGRESS

**Note:** As the alternate map is being executed, DACS II will generate the above IN PROGRESS message every 20 seconds.

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**MAP** - Map

**map name**

- Map name (1 to 7 uppercase alphanumeric characters)  
Name of an already existing alternate map.

**CLR** - Clear

Clear all cross-connections on all NPCs included in the map before activating the alternate map.

**INCL** - Inclusive

When an alternate map is activated, existing circuits that are marked CUS or RDC will be overwritten only if the INCL keyword has been specified. Otherwise, a denial will be issued as is currently done for channels under test, etc.

**NPC** - Network processing circuit

**[s]abc** - The first 3- or 4-digit nonhierarchical NPC number of NPC containing a non-two-way, two-point cross-connect.

**[s]jkl, [t]ghi**

- The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - First hierarchical NPC number of NPC containing a non-two-way, two-point cross-connection.

**edhfg** - Hierarchical NPC number

**wxkqr** - Hierarchical NPC number

**uv,wx,ed**

- Unit number

**m,k,h** - Module number

**np,qr,fg**

- NPC number within the module

The valid values are listed below:

DE type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd,jjj**

- Channel number, the first channel of a range

**eee,kkk**

- Channel number, the last channel of a range

001 through 024

**tc** - Trunk conditioning

**AIS** - Alarm Indication Signal (All 1's)

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                                                        |
|-----------|------------------------------------------------------------------------|
| <b>00</b> | No conditions                                                          |
| <b>62</b> | File is being accessed                                                 |
| <b>64</b> | File doesn't exist/can't be accessed                                   |
| <b>70</b> | Some circuits not activated,cleared or pictured                        |
| <b>71</b> | The reference map does not exist                                       |
| <b>72</b> | The map is not valid                                                   |
| <b>73</b> | Both sides of CCN are OOS                                              |
| <b>74</b> | At least one UC is OOS or At least one UC is failed                    |
| <b>75</b> | At least one UC is not the correct type                                |
| <b>D5</b> | No user is logged in on the link/vc                                    |
| <b>01</b> | Invalid range for specified NPC type                                   |
| <b>02</b> | Invalid NPC type for AIS insertion                                     |
| <b>06</b> | Invalid range for specified FROM NPC type                              |
| <b>07</b> | Invalid range for specified TO NPC type                                |
| <b>10</b> | NPC out of service or failed                                           |
| <b>11</b> | NPC not equipped                                                       |
| <b>12</b> | Active CCN side not IS or failed or pested or hardware OOS             |
| <b>13</b> | UNIT not equipped, not in service, or failed                           |
| <b>14</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS  |
| <b>15</b> | FTMI not equipped, not in service, or failed                           |
| <b>16</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS    |
| <b>17</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS  |
| <b>21</b> | Trunk conditioning is invalid                                          |
| <b>30</b> | Termination is already assigned                                        |
| <b>32</b> | Termination is under test                                              |
| <b>35</b> | Termination is protected (RDC)                                         |
| <b>36</b> | Termination is not connected as indicated                              |
| <b>40</b> | CCN denied request                                                     |
| <b>54</b> | Conversion leg is terminated                                           |
| <b>1A</b> | Required FLI not equipped, not in service, or failed                   |
| <b>1B</b> | Required MXR not equipped, not in service, or failed                   |
| <b>1C</b> | Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS |
| <b>1D</b> | Required MIU not equipped, not in service, or failed                   |
| <b>38</b> | Deny SP Type NPCs for Alternate Maps                                   |
| <b>A6</b> | Deny SLC for Alternate maps                                            |
| <b>A7</b> | Deny non-channelized NPCs for Alternate Maps                           |
| <b>E8</b> | SC invalid for cross-connection specified                              |
| <b>E9</b> | MUX or TRB invalid for cross-connection specified                      |
| <b>EA</b> | AIS invalid for cross-connection specified                             |
| <b>EB</b> | NAM invalid for cross-connection specified                             |
| <b>EC</b> | Invalid channel 000 cross-connection specified                         |
| <b>ED</b> | Invalid channel 031 cross-connection specified                         |



**cc**    *Explanation*

**85**    Using the 24th channel of a T1DM NPC  
**FF**    Termination is in process of being rolled  
**B0**    Unit 1 denied request  
**B1**    Unit 2 denied request  
**B2**    Unit 3 denied request  
**B3**    Unit 4 denied request  
**B4**    Unit 5 denied request  
**B5**    Unit 6 denied request  
**4A**    channel part of a TP or TG

## **ADD, LINK, APPL, ASCS, ASCD, PM, L2AD, POLL**

### **ADD TABS LINK PARAMETERS**

#### **Explanation Of Command**

This message is used to provision a TABS administrative link.

#### **Command**

[I.36007]

ADD:FRM xy,SEQ ww:LINK j,APPL {ASCS|ASCD|PM}[ ,L2AD aa]\  
[,POLL ttt]!

#### **Completion Message**

[O.36007]

M hh:mm:ss xy,ww n[vv] ADD LINK j APPL {ASCS|ASCD|PM}\  
[ L2AD aa][ POLL ttt] COMPL

#### **Denial Message**

[O.36007.01]

M hh:mm:ss xy,ww n[vv] ADD LINK j APPL {ASCS|ASCD|PM}\  
[ L2AD aa][ POLL ttt] COND cc DNY

#### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**LINK** - Link

**j** - Administrative link number (either 3 or 4)

**POLL** - Polling

**ttt** - Time in seconds

001 through 255 for ASCS or ASCD applications  
000 through 044 for PM applications

**APPL** - Application of the TABS link

**ASCS** - Alarm surveillance and control, summary

**ASCD** - Alarm surveillance and control, detailed

**PM** - Performance monitoring

**L2AD aa**  
- Layer 2 address (00 through 31)

**cc** - Hexadecimal condition code

**cc** *Explanation*

**DF** Command and protocol are inconsistent

**3A** Invalid poll time

**3B** Unspecified L2 address

**3C** Duplicate L2 address

## **ADD, LINK, K, T1, T3, N2, A, B**

**ADD LINK, X.25, PROTOCOL, DATA LINK, LAYER  
PARAMETERS**

### **Explanation Of Command**

This command allows the user to provision the protocol-specific parameters in the data link layer of an X.25 administrative link.

### **Command**

[I.36003]

**ADD:FRM xy,SEQ ww:LINK j[,K b][,T1 ee][,T3 ggg][,N2 aa]\  
[,FRMAD {A|B}]!**

### **Completion Message**

[O.36003]

**M hh:mm:ss xy,ww n[vv] ADD LINK j[ K b][ T1 ee][ T3 ggg]\  
[ N2 aa][ FRMAD {A|B}] COMPL**

### **Denial Message**

[O.36003.01]

**M hh:mm:ss xy,ww n[vv] ADD LINK j[ K b][ T1 ee][ T3 ggg]\  
[ N2 aa][ FRMAD {A|B}] COND cc DNY**

### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**LINK** - Link

**j** - Administrative link number (5 or 6)

**FRMAD** - Frame address used by each frame in the Data Link Layer of X.25 protocol.

**A** - Data link layer frame address A. Default is A

**B** - Data link layer frame address B

**K** - Maximum number of outstanding I frames

**b** - Number of frames (1 through 7). Default is 7.

**T1** - Acknowledgment timer

**ee** - Timer setting in seconds (2 through 20). Default is 3 seconds

**T3** - Disconnect (or Idle channel) timer

**ggg** - Timer setting in seconds (4 through 120). Default is 26 seconds

**N2** - Maximum number of frame transmissions

**aa** - Number of frame transmissions (2 through 16) (including original transmission). Default is 7.

**cc** - Hexadecimal condition code

**cc** *Explanation*

**03** Subject entity is in service

**D0** Command is Frame administrator (DAX) only.

## **ADD, LINK, PTCOL, S, X, T, M, BAUD, ALM, BS, ENQ**

### **ADD LINK, PROTOCOL, BAUD**

#### **Explanation Of Command**

This command is used to provision (add) a Snider, Modified Snider, X.25, or TABS administrative link. Only one modified Snider link may be provisioned.

This command can also be used to initialize or change the performance parameters of the link, including the protocol (PTCOL), link speed (BAUD), alarm class (ALM), backspace (BS), Xon/Xoff flow control (XON), and Enq/Ack flow control (ENQ) provisioning.

At least one parameter must be given.

On input, if a virtual circuit range is specified as zero (0), the corresponding group number specified is ignored by DACS II.

#### **Command**

[I.36001]

**ADD:FRM xy,SEQ ww:LINK j,PTCOL {S|X|T|M}[,BAUD bb][,ALM k]\  
[,BS e][,ENQ q][,XON x][,INIT]!**

If the protocol is Snider:

[I.36001]

**ADD:FRM xy,SEQ ww:LINK j,PTCOL S[,BAUD bb][,ALM k]\  
[,BS e][,ENQ q][,XON x][,INIT]!**

If the protocol is X.25:

[I.36001]

**ADD:FRM xy,SEQ ww:LINK j,PTCOL X[,ALM k][,INIT]!**

If the protocol is TABS:  
[I.36001]

**ADD:FRM xy,SEQ ww:LINK j,PTCOL T[,BAUD bb][,ALM k][,INIT]!**

If the protocol is Modified Snider:  
[I.36001]

**ADD:FRM xy,SEQ ww:LINK j,PTCOL M[,ALM k][,INIT]!**

### **Completion Message**

---

The output message received depends upon whether "ENQ" and "XON" are specified in the input command. If "ENQ" and "XON" are not specified in the input command, the output message is the following:  
[O.36001]

**M hh:mm:ss xy,ww n[vv] ADD LINK j[ PTCOL {S|X|T|M}]\**  
**[ BAUD bb][ ALM k][ BS e][ INIT] COMPL**

If "ENQ" and "XON" are specified in the input command, the output message is the following:

**M hh:mm:ss xy,ww n[vv] ADD LINK j[ PTCOL {S|X|T|M}]\**  
**[ BAUD bb][ ALM k][ BS e][ INIT] 2 LN MSG:**  
**[ ENQ q][ XON x] COMPL**

### **Denial Message**

---

The output message received depends upon whether "ENQ" and "XON" are specified in the input command. If "ENQ" and "XON" are not specified in the input command, the output message is the following:  
[O.36001.01]

**M hh:mm:ss xy,ww n[vv] ADD LINK j[ PTCOL {S|X|T|M}]\**  
**[ BAUD bb][ ALM k][ BS e][ INIT] COND cc DNY**

If "ENQ" and "XON" are specified in the input command, the output message is the following:

**M hh:mm:ss xy,ww n[vv] ADD LINK j[ PTCOL {S|X|T|M}]\**  
**[ BAUD bb][ ALM k][ BS e][ INIT] 2 LN MSG:**  
**[ ENQ q][ XON x] COND cc DNY**

## **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

---

**LINK** - Link

**j** - Administrative link number (1 through 6)

**PTCOL** - Protocol

**S** - SCCSAI (Snider protocol)

**X** - X.25 Synchronous protocol

**T** - TABS (Telemetry Asynchronous Block Serial protocol)

**M** - Modified Snider Protocol (requires baud rate of 1200)

**BAUD** - Baud

**bb** - Baud rate

Not provisioned for synchronous X.25 links

| <i>bb</i> | <i>Rate</i> |
|-----------|-------------|
|-----------|-------------|

|    |     |
|----|-----|
| 03 | 300 |
|----|-----|

|    |     |
|----|-----|
| 06 | 600 |
|----|-----|

|    |      |
|----|------|
| 12 | 1200 |
|----|------|

|    |      |
|----|------|
| 24 | 2400 |
|----|------|

|    |      |
|----|------|
| 48 | 4800 |
|----|------|

|    |      |
|----|------|
| 96 | 9600 |
|----|------|

**ALM** - Alarm

**k** - Alarm class for link hardware failures

| <i>k</i> | <i>Alarm Class</i> |
|----------|--------------------|
|----------|--------------------|

|   |                 |
|---|-----------------|
| 1 | Minor (default) |
|---|-----------------|

|   |       |
|---|-------|
| 2 | Major |
|---|-------|

**BS** - Backspace

**e** - Character echoed for backspace or control-h

| <i>e</i> | <i>Character</i> |
|----------|------------------|
|----------|------------------|

|   |                               |
|---|-------------------------------|
| 0 | Backspace is echoed (default) |
|---|-------------------------------|

|   |                      |
|---|----------------------|
| 1 | Underscore is echoed |
|---|----------------------|



**ENQ** - Enquire

**q** - ENQ/ACK Protocol Enable/Disable Control

*q* ENQ/ACK Protocol Provisioning

0 Disabled

1 Enabled (default)

If the DACS II frame has been set to expect the ENQ/ACK Protocol Enable/Disable Control and the sending terminal is not set up properly to send the ACK in response to ENQ, then after several attempts to receive ACK the DACS II frame will autonomously declare a protocol OOS for ENQ/ACK, remove the link, perform diagnostics and then restore the link. At this point the ENQ/ACK protocol is set to disabled.

**XON** - XON

**x** - XON/XOFF Protocol Enable/Disable Control

*x* XON/XOFF Protocol Provisioning

0 Disabled (default)

1 Enabled

The XON/XOFF Protocol Enable/Disable Control will only take effect when the DACS II frame is in output mode. The effect of XOFF lasts for 60 seconds or until an XON is received. If the frame has data to be output on the given link (that is, from a command executed on that link, or output data from another monitored link), and XOFF's are received in a manner such that at the end of an 60 second OFF interval a new 60 second OFF interval begins, thus preventing the frame from delivering output data, then the frame will declare a software error based on the assumption that a software communications error exists. The link will be autonomously removed, diagnosed, and restored. Following restoral, queued output data will be flushed. The XON protocol will still be in effect after the link is restored.

**INIT** - Initialize

Initialize the administrative link; all parameters are set to default except those specified in the command.

**cc** - Hexadecimal condition code

**cc** *Explanation*

**01** Subject entity is equipped

**03** Subject entity is in service

**D0** Command is Frame administrator (DAX) only.

**DF** Command and protocol are inconsistent

**2A** Incorrect pack type in slot

**EA** XON/XOFF flow control is supported only on Snider link

**cc**    *Explanation*

**EB**    ENQ/ACK flow control is supported only on Snider link

## **ADD, LINK, W, P, T20, T22, T23, T25, T26, R20**

### **ADD X.25 LINK PARAMETERS**

#### **Explanation Of Command**

This command allows a user to provision an X.25 administrative link with packet layer parameters.

If a virtual circuit (VC) range is specified as zero (0), the corresponding group number specified in **gghh** is ignored by DACS II.

Parameters T20, R20, DBIT, and VC() are per-link parameters and the remaining parameters are per-VC parameters.

If a 3-digit link+VC number (501, 502, ..) is used and only per-VC parameters are specified, then the command is accepted and the values apply only to the specified VC.

If a 3-digit link+VC number is used and at least one per-link parameter is specified, then the command is denied.

If a 1-digit link number (5 or 6) is used and any per-link and/or per-VC parameter is specified, then the command is accepted and the values apply to all VCs in the link. To ensure proper interface between DACS II and the packet network, packet layer parameters at DACS II and network ends of the X.25 link must be identical.

#### **Command**

[I.36005]

```
ADD:FRM xy,SEQ ww:LINK j[mm][,W c][,P ddd][,T20 iiii]\  
[,T22 jjj][,T23 kkk][,T25 lll][,T26 mmm][,R20 nn]\  
[,R22 p][,R23 qq][,R25 r][,DBIT v][,VC(ppss,gghh)]!
```

### **Completion Message**

---

[O.36005]

```
M hh:mm:ss xy,ww n[vv] ADD LINK j[mm][ W c][ P ddd]\
[ T20 iii][ T22 jjj][ T23 kkk][ T25 lll][ T26 mmm]\
[ R20 nn][ R22 p][ R23 qq][ R25 r][ DBIT v][ VC(ppss,gghh)] COMPL
```

**Note:** If output message is longer than 80 characters, the following will be output.

[O.36005]

```
M hh:mm:ss xy,ww n[vv] ADD LINK j[mm][ W c][ P ddd]\
[ T20 iii][ T22 jjj] 2 LN MSG:
[ T23 kkk][ T25 lll][ T26 mmm][ R20 nn][ R22 p][ R23 qq]\
[ R25 r][ DBIT v][ VC(ppss,gghh)] COMPL
```

### **Denial Message**

---

[O.36005.01]

```
M hh:mm:ss xy,ww n[vv] ADD LINK j[mm][ W c][ P ddd]\
[ T20 iii][ T22 jjj][ T23 kkk] [ T25 lll][ T26 mmm]\
[ R20 nn][ R22 p][ R23 qq][ R25 r][ DBIT v][ VC(ppss,gghh)]\
COND cc DNY
```

**Note:** If output message is longer than 80 characters, the following will be output:

[O.36005.01]

```
M hh:mm:ss xy,ww n[vv] ADD LINK j[mm][ W c][ P ddd]\
[ T20 iii][ T22 jjj] 2 LN MSG:
[ T23 kkk][ T25 lll][ T26 mmm][ R20 nn][ R22 p][ R23 qq]\
[ R25 r][ DBIT v][ VC(ppss,gghh)] COND cc DNY
```

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**LINK** - Link

**j [mm]** - Administrative link number

**j** - Physical link number (l is either 5 or 6)

**mm** - Virtual circuit number (01 through 16)

**W** - Window

**c** - Window size (1 through 7). Default window size is 2.

**P** - Packet

**ddd** - Packet size. Can be 128, 256, 512 octets. Default is 128 octets.

**T20** - Restart request response timer

**iii** - Timer setting (10 through 180 seconds). Default is 180 seconds.

T20 is valid only on a per link basis and will be denied on an individual virtual circuit.

**T22** - Reset request response timer

**jjj** - Timer setting (10 through 180 seconds). Default is 180 seconds.

**T23** - Disconnect (or idle channel) timer

**kkk** - Timer setting (10 through 180 seconds). Default is 180 seconds.

**T25** - Data packet acknowledgement timer

**lll** - Timer setting (10 through 200 seconds). Default is 200 seconds.

**T26** - Interrupt response timer.

**mmm** - Timer setting (10 through 180 seconds). Default is 180 seconds.

**R20** - Restart request retransmission counter

**nn** - Counter setting (1 through 10). Default is 1.

R20 is valid only on a per link basis and will be denied on an individual virtual circuit.

**R22** - Reset request retransmission counter.

**p** - Counter setting (1 through 3). Default is 1.

**R23** - Clear request retransmission counter.

**qq** - Counter setting (1 through 10). Default is 1.

**R25** - Data packet retransmission counter.

**r** - Counter setting (0 through 3). Default is 0.

**VC** - Virtual circuit

**ppss** - Virtual circuit number

**pp** - Range of PVCs

**ss** - Range of SVCs

The sum of the number of PVCs and SVCs must be equal to 16.

Table 1 shows the default values for these fields.

Table 1 and Table 2 show the acceptable values for these fields, allowing for an LCN numbering scheme of 00-255.

TABLE 1

| "pp" | "ss" | Number<br>of PVCs | Number<br>of SVCs | Starting LCN for first<br>PVC Channel | Starting LCN for first<br>SVC Channel |
|------|------|-------------------|-------------------|---------------------------------------|---------------------------------------|
| 00   | 16   | 00                | 16                | --                                    | 01                                    |
| 01   | 15   | 01                | 15                | 01                                    | 02                                    |
| 02   | 14   | 02                | 14                | 01                                    | 03                                    |
| 03   | 13   | 03                | 13                | 01                                    | 04                                    |
| 04   | 12   | 04                | 12                | 01                                    | 05                                    |
| 05   | 11   | 05                | 11                | 01                                    | 06                                    |
| 06   | 10   | 06                | 10                | 01                                    | 07                                    |
| 07   | 09   | 07                | 09                | 01                                    | 08                                    |
| 08   | 08   | 08                | 08                | 01                                    | 09                                    |
| 09   | 07   | 09                | 07                | 01                                    | 10                                    |
| 10   | 06   | 10                | 06                | 01                                    | 11                                    |
| 11   | 05   | 11                | 05                | 01                                    | 12                                    |
| 12   | 04   | 12                | 04                | 01                                    | 13                                    |
| 13   | 03   | 13                | 03                | 01                                    | 14                                    |
| 14   | 02   | 14                | 02                | 01                                    | 15                                    |
| 15   | 01   | 15                | 01                | 01                                    | 16                                    |
| 16   | 00   | 16                | 00                | 01                                    | --                                    |

TABLE 2

| "pp"                | "ss" | Number<br>of PVCs | Number<br>of SVCs | Starting LCN for first<br>PVC Channel | Starting LCN for first<br>SVC Channel |
|---------------------|------|-------------------|-------------------|---------------------------------------|---------------------------------------|
| $0 \leq nn \leq 48$ |      |                   |                   |                                       |                                       |
| 20                  | nn   | 00                | 16                | --                                    | nn                                    |
| 21                  | nn   | 01                | 15                | nn                                    | nn+1                                  |
| 22                  | nn   | 02                | 14                | nn                                    | nn+2                                  |
| 23                  | nn   | 03                | 13                | nn                                    | nn+3                                  |
| 24                  | nn   | 04                | 12                | nn                                    | nn+4                                  |
| 25                  | nn   | 05                | 11                | nn                                    | nn+5                                  |
| 26                  | nn   | 06                | 10                | nn                                    | nn+6                                  |
| 27                  | nn   | 07                | 09                | nn                                    | nn+7                                  |
| 28                  | nn   | 08                | 08                | nn                                    | nn+8                                  |
| 29                  | nn   | 09                | 07                | nn                                    | nn+9                                  |
| 30                  | nn   | 10                | 06                | nn                                    | nn+10                                 |
| 31                  | nn   | 11                | 05                | nn                                    | nn+11                                 |
| 32                  | nn   | 12                | 04                | nn                                    | nn+12                                 |
| 33                  | nn   | 13                | 03                | nn                                    | nn+13                                 |
| 34                  | nn   | 14                | 02                | nn                                    | nn+14                                 |
| 35                  | nn   | 15                | 01                | nn                                    | nn+15                                 |
| 36                  | nn   | 16                | 00                | nn                                    | --                                    |
| 40                  | nn   | 00                | 16                | --                                    | nn+64                                 |
| 41                  | nn   | 01                | 15                | nn+64                                 | nn+65                                 |
| 42                  | nn   | 02                | 14                | nn+64                                 | nn+66                                 |
| 43                  | nn   | 03                | 13                | nn+64                                 | nn+67                                 |
| 44                  | nn   | 04                | 12                | nn+64                                 | nn+68                                 |
| 45                  | nn   | 05                | 11                | nn+64                                 | nn+69                                 |
| 46                  | nn   | 06                | 10                | nn+64                                 | nn+70                                 |
| 47                  | nn   | 07                | 09                | nn+64                                 | nn+71                                 |
| 48                  | nn   | 08                | 08                | nn+64                                 | nn+72                                 |
| 49                  | nn   | 09                | 07                | nn+64                                 | nn+73                                 |
| 50                  | nn   | 10                | 06                | nn+64                                 | nn+74                                 |
| 51                  | nn   | 11                | 05                | nn+64                                 | nn+75                                 |
| 52                  | nn   | 12                | 04                | nn+64                                 | nn+76                                 |
| 53                  | nn   | 13                | 03                | nn+64                                 | nn+77                                 |
| 54                  | nn   | 14                | 02                | nn+64                                 | nn+78                                 |
| 55                  | nn   | 15                | 01                | nn+64                                 | nn+79                                 |
| 56                  | nn   | 16                | 00                | nn+64                                 | --                                    |

| "pp"                | "ss" | Number<br>of PVCs | Number<br>of SVCs | Starting LCN for first<br>PVC Channel | Starting LCN for first<br>SVC Channel |
|---------------------|------|-------------------|-------------------|---------------------------------------|---------------------------------------|
| $0 \leq nn \leq 48$ |      |                   |                   |                                       |                                       |
| 60                  | nn   | 00                | 16                | --                                    | nn+128                                |
| 61                  | nn   | 01                | 15                | nn+128                                | nn+129                                |
| 62                  | nn   | 02                | 14                | nn+128                                | nn+130                                |
| 63                  | nn   | 03                | 13                | nn+128                                | nn+131                                |
| 64                  | nn   | 04                | 12                | nn+128                                | nn+132                                |
| 65                  | nn   | 05                | 11                | nn+128                                | nn+133                                |
| 66                  | nn   | 06                | 10                | nn+128                                | nn+134                                |
| 67                  | nn   | 07                | 09                | nn+128                                | nn+135                                |
| 68                  | nn   | 08                | 08                | nn+128                                | nn+136                                |
| 69                  | nn   | 09                | 07                | nn+128                                | nn+137                                |
| 70                  | nn   | 10                | 06                | nn+128                                | nn+138                                |
| 71                  | nn   | 11                | 05                | nn+128                                | nn+139                                |
| 72                  | nn   | 12                | 04                | nn+128                                | nn+140                                |
| 73                  | nn   | 13                | 03                | nn+128                                | nn+141                                |
| 74                  | nn   | 14                | 02                | nn+128                                | nn+142                                |
| 75                  | nn   | 15                | 01                | nn+128                                | nn+143                                |
| 76                  | nn   | 16                | 00                | nn+128                                | --                                    |
| 80                  | nn   | 00                | 16                | --                                    | nn+192                                |
| 81                  | nn   | 01                | 15                | nn+192                                | nn+193                                |
| 82                  | nn   | 02                | 14                | nn+192                                | nn+194                                |
| 83                  | nn   | 03                | 13                | nn+192                                | nn+195                                |
| 84                  | nn   | 04                | 12                | nn+192                                | nn+196                                |
| 85                  | nn   | 05                | 11                | nn+192                                | nn+197                                |
| 86                  | nn   | 06                | 10                | nn+192                                | nn+198                                |
| 87                  | nn   | 07                | 09                | nn+192                                | nn+199                                |
| 88                  | nn   | 08                | 08                | nn+192                                | nn+200                                |
| 89                  | nn   | 09                | 07                | nn+192                                | nn+201                                |
| 90                  | nn   | 10                | 06                | nn+192                                | nn+202                                |
| 91                  | nn   | 11                | 05                | nn+192                                | nn+203                                |
| 92                  | nn   | 12                | 04                | nn+192                                | nn+204                                |
| 93                  | nn   | 13                | 03                | nn+192                                | nn+205                                |
| 94                  | nn   | 14                | 02                | nn+192                                | nn+206                                |
| 95                  | nn   | 15                | 01                | nn+192                                | nn+207                                |
| 96                  | nn   | 16                | 00                | nn+192                                | --                                    |

**gghh** - Group number

**gg** - Group number for all PVCs (00 through 15).

**hh** - Group number for all SVCs (00 through 15).

VC() is valid only on a per link basis and will be denied on an individual virtual circuit.



**DBIT** - D-bit

**v** - *X.25 d-bit setting*

| <b>v</b> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|   |                                                            |
|---|------------------------------------------------------------|
| 0 | Off (unset) (acknowledgement done from local DTE). Default |
|---|------------------------------------------------------------|

|   |                                                 |
|---|-------------------------------------------------|
| 1 | On (set) (acknowledgement done from remote DTE) |
|---|-------------------------------------------------|

DBIT is valid only on a per link basis and will be denied on an individual virtual circuit.

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b> | <i>Explanation</i> |
|-----------|-----------|--------------------|
|-----------|-----------|--------------------|

|           |  |                              |
|-----------|--|------------------------------|
| <b>03</b> |  | Subject entity is in service |
|-----------|--|------------------------------|

|           |  |                                       |
|-----------|--|---------------------------------------|
| <b>DF</b> |  | Command and protocol are inconsistent |
|-----------|--|---------------------------------------|

|           |  |                               |
|-----------|--|-------------------------------|
| <b>E2</b> |  | Invalid link number specified |
|-----------|--|-------------------------------|

|           |           |                                                                  |
|-----------|-----------|------------------------------------------------------------------|
| <b>E3</b> | <b>IS</b> | Can't Use LCN 0/LGN 0 - designated as a supervisory channel only |
|-----------|-----------|------------------------------------------------------------------|

## **ADD,NPC**

---

### **ADD NETWORK PROCESSING CIRCUIT**

#### **Explanation Of Command**

---

This message adds one or more network processing circuits (NPCs) of the facility terminating unit (FTU) into an alternate map while in a map session.

#### **Command**

---

##### **Nonhierarchical**

---

[I.36021]

**ADD:FRM xy,SEQ ww:NPC {[s]abc-[t]def|[s]abc[, [s]ghi]...\  
[, [t]def]]}!**

##### **Hierarchical**

---

[I.36021]

**ADD:FRM xy,SEQ ww:NPC {uvmnp-wxkqr|uvmnp[,edfgh]...\  
[,wxkqr]]}!**

#### **Completion Message**

---

If the command is accepted by DACS II, the following acknowledgement will be output.

**OK**

#### **Denial Message**

---

Not applicable.

### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

**NPC** - Network processing circuit

**[s]abc, [t]def, [s]ghi**  
- The 3- or 4-digit nonhierarchical NPC numbers

If NPC numbers are expressed in three digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number at beginning of range  
**wxkqr** - Hierarchical NPC number at end of range  
**edfgh** - Hierarchical NPC number

**uv,wx,ed**  
- Unit number  
**m,k,f**  
- Module number  
**np,qr,gh**  
- NPC number

The valid values are:

DE type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

## **ADD,RT,DL,MD,DGA,DGB,DGC,DGD,DGP,NDL**

### **ADD RT | DL**

#### **Explanation Of Command**

This command is used to request assignment of from one to five network processing circuits of type DS<sub>xyz</sub> to a specific SLC<sup>®</sup> carrier bank or a digital carrier line unit system. This command also allows for designation of remote terminal digital line parameters to a grown DS-type network processing circuit.

Use this command to enter the bank's identification number, its mode of operation and to designate the digroups associated with the network processing circuit.

For SLC 96 carrier, the existence of a data link on digroup A and the meaning of the PWR/ MISC alarm carried on the data link are identified. For a SLC Series 5 Carrier Feature Package C (FPC) interface, this message allows the user to specify if the remote terminal is to be retrofitted from a Central Office Terminal (COT) to DACS II.

The retrofit (**RTF**) keyword is applicable only to SLC Series 5 Carrier FPC remote terminals. If the remote terminal exists and is to be cutover from an RT-COT interface to DACS II, the **RTF** keyword must be entered in this command, and the remote terminal retrofit procedure must be followed. Note that, at least one digroup with its associated NPC number must be present on input. Also note that options **sss** and no data line (**NDL**) can only be specified if DGA **aaa** is present on input. This command is used to request assignment of from one to five network processing circuits of type DS<sub>xyz</sub> to a specific SLC<sup>®</sup> carrier bank or a DCLU system.

In this message, the bank's identification number, its mode of operation and its designated digroups. For SLC 96 the existence of a data link on the digroup A and the meaning of the PWR/ MISC alarm carried on the data link, if it exists, are identified. For SLC Series 5 Feature Package C (FPC) interface, this message allows the user to specify if the remote terminal is to be retrofitted from a COT to DACS II.

This message also allows for designation of RT (DL) parameters to a grown DS-type NPC.

Note that, at least one digroup with its associated network processing number must be present on the input message. Also note that the options of **sss** and **NDL** can only be specified.

The RTF keyword is applicable only to SLC Series 5 FPC remote terminals. If the remote terminal exists and is to be cutover from a RT-COT interface to DACS II, the RTF must be entered in this command, and the remote terminal retrofit procedure must be followed. Note that at least one digroup with its associated NPC number must be present on the input message. Also, note that, the options of sss and NDL can only be specified if the DGA [s]aaa is present on the input message. The RTF key word is applicable only to SLC Series 5 FPC RTs. If the FPC RT is in service and is to be cutover from an RT-COT interface to DACS II, the RTF keyword must be entered in this command, and the RT retrofit procedure must be followed.

### **Command**

---

#### **Nonhierarchical**

---

[I.36201]

```
ADD:FRM xy,SEQ ww:{RT|DL} ffff,MD g[g]\
[,DGA [s]aaa][,DGB [s]bbb][,DGC [s]ccc][,DGD [s]ddd]\
[,DGP[s]ppp][,{sss|NDL|RTF}]!
```

#### **Hierarchical**

---

[I.36201]

```
ADD:FRM xy,SEQ ww:{RT|DL} ffff,MD g[g][,DGA uvjab]\
[,DGB uvkcd][,DGC uvlef][,DGD uvmgh][,DGP uvjpr]\
[, {sss|NDL|RTF}]!
```

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.36201]

```
M hh:mm:ss xy,ww n[vv] ADD {RT|DL} ffff MD g[g] 2 LN MSG:
[DGA [s]aaa][ DGB [s]bbb][ DGC [s]ccc][ DGD [s]ddd]\
[ DGP [s]ppp][ {sss|NDL|RTF}] COMPL
```

## **Hierarchical**

---

[O.36201]

M hh:mm:ss xy,ww n[vv] ADD {RT|DL} ffff MD g[g] 2 LN MSG:  
[DGA uvjab][ DGB uvkcd][ DGC uvlef][ DGD uvmgh][ DGP uvjpr]\  
[ {sss|NDL|RTF}] COMPL

## **Denial Message**

---

## **Nonhierarchical**

---

[O.36201.01]

M hh:mm:ss xy,ww n[vv] ADD {RT|DL} ffff MD g[g] 2 LN MSG:  
[DGA [s]aaa][ DGB [s]bbb][ DGC [s]ccc][ DGD [s]ddd]\  
[ DGP [s]ppp][ {sss|NDL|RTF}][ {A|B|C|D|P}] COND cc DNY

## **Hierarchical**

---

[O.36201.01]

M hh:mm:ss xy,ww n[vv] ADD {RT|DL} ffff MD g[g] 2 LN MSG:  
[ DGA uvjab][ DGB uvkcd][ DGC uvlef][ DGD uvmgh][ DGP uvjpr]\  
[ {sss|NDL|RTF}][ {A|B|C|D|P}] COND cc DNY

## **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

---

**DGA** - Digroup A of SLC carrier bank  
**DGB** - Digroup B of SLC carrier bank  
**DGC** - Digroup C of SLC carrier bank  
**DGD** - Digroup D of SLC carrier bank  
**DGP** - Digroup P of SLC carrier bank

**[s]aaa** - The 3- or 4-digit nonhierarchical DGA NPC number  
**[s]bbb** - The 3- or 4-digit nonhierarchical DGB NPC number  
**[s]ccc** - The 3- or 4-digit nonhierarchical DGC NPC number  
**[s]ddd** - The 3- or 4-digit nonhierarchical DGD NPC number  
**[s]ppp** - The 3- or 4-digit nonhierarchical DGP NPC number



If NPC numbers are expressed in three digits, the valid values are:

DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

**uvjab** - Hierarchical DGA NPC number  
**uvkcd** - Hierarchical DGA NPC number  
**uvlef** - Hierarchical DGA NPC number  
**uvmgh** - Hierarchical DGA NPC number  
**uvjpr** - Hierarchical DGA NPC number

**uv** - Unit number  
**j, k, l, m**  
 - Module number within the unit  
 (For FPC RT j=k=l=m)  
**ab** - DGA NPC number within the module  
**cd** - DGB NPC number within the module  
**ef** - DGC NPC number within the module  
**gh** - DGD NPC number within the module  
**pr** - DGP NPC number within the module

The allowable values are presented below:

DS type NPC numbers listed by unit, module, and NPC Number  
 Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

**RT** - SLC remote terminal  
**DL** - Digital carrier line unit  
**ffff** - Bank identification number (0000 through 9999)  
**NDL** - No data link  
**RTF** - Retrofit (only applies to SLC Series 5 FPC RT)

**MD g[g]**  
 - Mode of operation of SLC carrier bank

| <i>g[g]</i> | <i>Explanation</i>      |
|-------------|-------------------------|
| 1           | SLC 96 Carrier Mode I   |
| 3           | SLC 96 Carrier Mode III |
| C           | SLC Series 5 Carrier    |

**sss** - Power or miscellaneous alarm option

| <i>sss</i> | <i>Explanation</i>                                                   |
|------------|----------------------------------------------------------------------|
| PMJ        | The PWR/MISC alarm from the data link is a power major alarm         |
| PMN        | The PWR/MISC alarm from the data link is a power minor alarm         |
| MMJ        | The PWR/MISC alarm from the data link is a miscellaneous major alarm |
| MMN        | The PWR/MISC alarm from the data link is a miscellaneous minor alarm |

**A, B, C, D, P**

- Digroup name indicating the digroup that caused the denial.

**cc** - Hexadecimal condition code

**cc**    *Explanation*

- 10**    Unit is not equipped
- 11**    UC is out of service
- 12**    UC is in service but failed
- 13**    FTMI is not equipped
- 15**    NPC is unequipped
- 2D**    RTF keyword is used without DGA
- 2E**    RTF keyword and the operation mode does not match
- 64**    NPC is already grown and added as SLC digroup
- 65**    Another NPC is grown and added as this digroup
- 66**    DGP designated to bank without data link
- 67**    DGA is not added
- 68**    NDL option is used without DGA
- 6A**    NPC type is not DS type
- 6B**    Operation mode and digroup name don't match
- 6C**    Framing format, digroup name & operational mode don't match
- 6D**    Counting sequence and operational mode don't match
- 6E**    DGA with NDL option is not provisioned with D4 or ESF framing format
- 6F**    Adding two digroups from one bank on same DDC
- 70**    Digroups from same bank have different modes
- 71**    Digroups from same bank have different counting sequence
- 72**    Digroups from same bank are added to two different FTUs
- 73**    Invalid PWR/MISC alarm level
- 74**    PWR/MISC alarm is specified to a digroup other than DGA
- 76**    Alarm option and bank mode don't match
- 77**    Unassigned operational mode
- 78**    Protection switch process failed
- 79**    DGA/DGP of RT/DL Mode I must be assigned to one DDC
- 7A**    Mode I RT/DL IDs don't match for DGA/DGP on same DDC
- 7B**    Other NPC on this DDC not the same digroup for Mode I DGA/DGP
- 7C**    Different DSxyz types are used for DGA/DGP on same DDC for Mode I
- 7D**    The NDL options are different for DGA's on the same DDC for Mode I
- 82**    DL ffff is used w/ operational mode other than Mode I
- 94**    Mate RT/DL mode is different
- AF**    Number of SLC RT's on each unit is limited to 80
- BC**    DGA and DGB must be specified together in the command
- BD**    DGC and DGD must be specified together in the command
- BE**    NPC type option Y is invalid for SLC-96 NPC
- 1B**    Two digroups from same bank added to different FTMI's
- D4**    Active CCN side is out of service
- E5**    Adding DL DGP forbidden for SLC 96 MD 1

**cc**    *Explanation*

- E6**    No DL digroups can be added until the associated RT bank is created
- 58**    SLC 96 MD 1 RT DGP requires mate NPC to be unequipped
- 59**    Number of DGPs on each unit is limited to 32
- 69**    Use of this NPC is RESERVED for SLC 96 MD 1

## **ADD,USER,LINK,INCL,ALL,LANG,M,P,F**

### **ADD USER/LINK LANGUAGE, NPC ADDRESSING AND PRIORITY**

#### **Explanation Of Command**

This command *is used by the DACS II frame administrator* to assign to a user or link or all users and links any of the following attributes:

- The language with which users converse with the DACS II machine
- The type of addressing used to specify a network processing circuit
- The execution priority level assigned to a given message category
- The ability to remove a link

The command can also be used to initialize these attributes, except for the language and NPC addressing type attributes, to their default values.

To change the type of addressing the frame administrator must issue this command and then logout and login again.

#### **Command**

[I.36103]

```
ADD:FRM xy,SEQ ww:{USER <user id>|LINK j[mm][,INCL]|ALL}\  
[,LANG {M|P|F}][,NPCAD {E|X|H}][,LEV(a,b,c,d,e,f)]\  
[, {RMON|RMOFF}][,RLK {A|I}][,INIT]!
```

## **Completion Message**

---

[O.36103]

```
M hh:mm:ss xy,ww n[vv] ADD {USER <user id>|LINK j[mm][,INCL]|ALL} \
2 LN MSG:
[LANG {M|P|F}][ NPCAD {E|X|H}][ LEV(a,b,c,d,e,f)]\
[ {RMON|RMOFF}][ RLK {A|I}][ INIT] COMPL
```

## **Denial Message**

---

[O.36103.01]

```
M hh:mm:ss xy,ww n[vv] ADD {USER <user id>|LINK j[mm][,INCL]|ALL} \
2 LN MSG:
[LANG {M|P|F}][ NPCAD {E|X|H}][ LEV(a,b,c,d,e,f)]\
[ {RMON|RMOFF}][ RLK {A|I}][ INIT] COND cc DNY
```

## **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

---

**USER** - User

**user id**

- User identifier

The users login identifier (two to eight alphabetic characters). The command is denied if the user identifier does not exist.

**LINK** - Link

**j[mm]** - Administrative link number

j Physical link number (1 through 6)

mm Virtual circuit number (01 through 16) for l = 5 or 6

**INCL** - Inclusive

Include virtual circuits of links 5 and 6. The INCL keyword can only be entered with X.25 links 5 and 6, and no virtual circuit number is allowed when this keyword is used. That is, "mm" and "INCL" are mutually exclusive. In addition, the INCL keyword is also mutually exclusive with the "user id" and the keyword "ALL". When INCL is entered, it means that all provisioning data specified in this command, for example, LANG, NPCAD, LEV(a,b,c,d,e,f), RMON/RMOFF and RLK, will be applied to all virtual circuits of the link (5 or 6).

**ALL** - All

All users and links (including virtual circuits). The ALL keyword can only be used together with the NPCAD option. When used, it will change the NPC addressing scheme for ALL users and links including virtual circuits. There is a single exception: the ALL keyword does not affect the NPC addressing scheme for a virtual circuit that is provisioned with the facility data link communication protocol, "F".

**LANG** - Language

The LANG keyword specifies the language used by a link communicating with the DACS II system. All languages cannot be used on all links. The protocol determines what languages are permissible. Three languages are available and they are listed below. See the table below for permissible combinations of protocol and language.

| <i>protocol</i> | <i>language</i>  |
|-----------------|------------------|
| Snider          | PDS or MML       |
| X.25            | PDS, MML, or FDL |
| TABS            | Not applicable   |
| Modified Snider | Not applicable   |

The language defaults to *PDS* if LANG is not specified.

**P** - Program Documentation Standards (PDS)

**M** - Man-Machine Language (MML)

**F** - Facility Data Link (FDL) Communication Protocol

This language may only be provisioned for a single virtual circuit on an X.25 link. A virtual circuit provisioned with this language provides a communication path between an Operations Support System and the ESF data link of a DA or TA type (ANSI) Network Processing Circuit. Such a virtual circuit is completely dedicated to this function and does not interact with other DACS II input/output (I/O) messages. Once the X.25 link is set up, provisioning this function only requires the user to specify the language "F" for the virtual circuit; no other I/O parameters affect this channel, except the NPC addressing option.

**NPCAD** - Network processing circuit addressing

**E** - Extended 3-digit nonhierarchical NPC addressing

If the 3-digit nonhierarchical NPC addressing scheme is allowed in the configuration file, it will be used as the default NPC addressing scheme.

**X** - Extended 4-digit nonhierarchical NPC addressing

If the 3-digit nonhierarchical NPC addressing scheme is not allowed in the configuration file, the 4-digit scheme is used as the default NPC addressing scheme.

**H** - Hierarchical NPC addressing

**⇒ NOTE:**

To place a new addressing scheme into effect the frame administrator must first request the new addressing scheme with this command and then logout and login again.



- LEV** - Level
- a** - Execution priority level for circuit provisioning commands
  - b** - Execution priority level for equipment provisioning commands
  - c** - Execution priority level for maintenance commands
  - d** - Execution priority level for test access commands
  - e** - Execution priority level for monitoring commands
  - f** - Execution priority level for common commands

A table giving the command verbs associated with each of the above command sets is given below.

LEV is used in combination with the command set identifiers a through f to set the execution priority level for each command set. A priority level applies to a user or link as appropriate. Priority levels range from 0 through 3. A list of these levels and their meaning is given below for a. The list for b through f is similar to the a list.

| <i>a</i> | <i>Explanation</i>                                                                                                                                                                                                        |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0        | Commands in the command set assigned this execution priority level cannot be executed.                                                                                                                                    |
| 1        | Highest execution priority level. Commands in the command set assigned this execution priority level will be executed before commands with priority level 2 or 3.                                                         |
| 2        | Middle execution priority level. Commands in the command set assigned this execution priority level will be executed before commands with priority level 3                                                                |
| 3        | Lowest execution priority level. Commands in the command set assigned this execution priority level will be executed after all priority level 1 and 2 commands have been executed. Level 3 is the default priority level. |
| -        | The execution priority level of the command set assigned this execution priority level is not to be changed.                                                                                                              |

**Note:** The commands used to login, logoff, cross-connect, stop, and abort always have the highest priority.

A single queue is used for DACS II commands. When multiple commands arrive at the same time, they will be queued for execution according to the priority assigned to their command set. Commands with the same priority will be executed in the order of arrival, that is, first come first served. A timeout feature insures that no command will wait in the queue forever. When the timeout period has expired for a given command that command will be executed regardless of its priority level.

| a<br>Circuit<br>Prov.                                                                                    | b<br>Equipment<br>Prov. | c<br>Maint. | d<br>Test<br>Access | e<br>Monitoring | f<br>Common                    |
|----------------------------------------------------------------------------------------------------------|-------------------------|-------------|---------------------|-----------------|--------------------------------|
| BCON<br>BDIS<br>CONF                                                                                     | COPY<br>DGRTH           | CFR<br>DGN  | CTST                | AUD<br>UTL      | ACT<br>ADD                     |
| OCNT<br>OCON<br>ODIS<br>OPR<br>RLS<br>SCNT<br>SCON<br>SDCH<br>SDIS<br>SECH<br>SW<br>TCNT<br>TCON<br>TDIS | DLT<br>GRTH             | RMV<br>RST  | TTST                |                 | ALW<br>CHG<br>ED<br>EXC<br>INH |

**RMON** - Restricted maintenance privilege ON

The RMON keyword is used to assign to a user the privilege of issuing the commands normally restricted to the Frame Administrator.

The following commands are restricted to the Frame Administrator.

|                                      |           |
|--------------------------------------|-----------|
| RST::MC,TAPE!                        | (I.34001) |
| RST::MC,FRC!                         | (I.34001) |
| UTL::BMTR,FROM TAPE,TO DISK[,INSTL]! | (I.55701) |
| RST::DISK,CLR!                       | (I.34211) |
| UTL::CLR,BMTR!                       | (I.51051) |
| UTL::BMTR,FROM TAPE,TO DISK[,EXCT]!  | (I.55701) |
| UTL::BOOT,FRAME[,TAPE]!              | (I.58001) |

**RMOFF** - Restricted maintenance privilege OFF

The RMOFF keyword is used to eliminate a user's privilege to issue the commands restricted to the Frame Administrator. RMOFF is the default value.

**RLK** - Remove Link

**A** - Allowed

A is the default value.

**I** - Inhibited

RLK is used to assign to a user or link the privilege of removing a link. There is a relationship between the link privilege and the execution priority level. If c (see previous Command Sets table) in the LEV field is set to zero then the command to remove a link cannot be executed hence the remove link privilege is inhibited even if the RLK option is set to A or I.

**INIT** - Initialize

INIT is used to assign the default values to the link/user parameters LEV, RMON/RMOFF and RLK. Parameters specified in the command will take on the specified values.

**cc** - Hexadecimal condition code

**cc** *Explanation*

**D0** Command is Frame administrator (DAX) only.

**D1** Cannot create any more users

**D2** User has been created

**D3** User does not exist

**D6** Incorrect or missing password

**D8** Cannot remove Frame administrator

**DC** No zeros allowed for DAX privilege

**DF** Command and protocol are inconsistent

**25** Invalid FPI value

**C0** NPC addressing scheme selected is not allowed in the configuration file

**E1** Virtual circuit is not specified for X.25 link

**E2** Invalid link number specified

**E3** Invalid keyword(s) combination specified

**E4** Invalid NPC addressing scheme specified

**E5** No user/link needs to be changed

**3B** Not valid for frame administrator

**40** Only one channel allowed to have this language

**41** Language "F" provisioned for this channel

**83** Language is not allowed

## **ADD,USER,NEW,PASSWD**

### **ADD USER**

#### **Explanation Of Command**

This message is used by the frame administrator to create a new user login identification and password or to reassign a login identification and password to a previous user of DACS II.

The **NEW** keyword indicates that a new user is being created. The frame administrator uses this command without the **NEW** keyword to reassign a password to a user who is currently on DACS II.

A user is identified to DACS II by his or her **user id** associated with the login. The administrator divulges a password to a new user for the initial log on to DACS II. Afterwards, the user can change this initial password through the **CHG PASSWD** command to a password known only to him or her.

Output from this command is sent only to the link on which the command was input.

#### **Command**

[I.36101]

**ADD:FRM xy,SEQ ww:USER <user id>[,NEW][,PASSWD <user password>]!**

If the message is entered on a Snider link:

[I.36101]

**ADD:FRM xy,SEQ ww:USER <user id>[,NEW]!**

DACS II then generates the message below and a dialog is started.

**PASSWD:** (The frame administrator enters user password.)

**REENTER PASSWD:** (The frame administrator again enters the user password.).

Note that the user password is not echoed by DACS II.

### **Completion Message**

---

[O.36101]

**M hh:mm:ss xy,ww n[vv] ADD USER <user id>[ NEW] COMPL**

### **Denial Message**

---

[O.36101.01]

**M hh:mm:ss xy,ww n[vv] ADD USER <user id>[ NEW] COND cc DNY**

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**USER** - User

**user id**

- User identifier

User login identification (two to eight alphabetic characters).

**NEW** - New

Create a user identifier for a new user.

**Note:** The "NEW" keyword cannot be used to create a user identifier on a link that is using the X.25 protocol.

**PASSWD** - Password

**user password**

- User password

The password assigned to the user, where password is at least six alphanumeric characters.

**Note:** The "PASSWD" keyword cannot be used to create a user identifier on a link that is using the X.25 protocol.

**cc** - Hexadecimal condition code

**cc** *Explanation*

- D0** Command is Frame administrator (DAX) only.
- D1** Cannot create any more users
- D2** User has been created
- D3** User does not exist
- D6** Incorrect or missing password

## **ALM,IDLD,NPC**

**ALARM IDLED, DE, DS, OR TE NPCs**

### **Explanation Of Command**

This autonomous output message reports that a major or minor alarm has been cleared for a given parameter on a facility that terminates on a particular network processing circuit (NPC).

### **Command**

Not applicable.

### **Completion Message**

Not applicable.

### **Denial Message**

Not applicable.

### **Autonomous Message**

### **Nonhierarchical**

[O.65041]

**I hh:mm:ss xy,ww ALM IDLD <parameter> NPC [s]abc COMPL**

## Hierarchical

[O.65041]

**I hh:mm:ss xy,ww ALM IDLD <parameter> NPC uvmnp COMPL**

## Explanation Of Parameters

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |



If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module  
Values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**IDLD** - Idled

**parameter**

- Facility performance parameter

| Parameter                  | Programmable<br>Threshold<br>Range | Default<br>Threshold |
|----------------------------|------------------------------------|----------------------|
| Bit Error Rate (BER) Major | 1E-6* to 1E-3†                     | 1E-3†                |
| Bit Error Rate (BER) Minor | 1E-6* to 1E-3†                     | 1E-6                 |

\* For T1DM and Fe framing, the lower limit of the programmable threshold range is 1E-7.

† For DE-type Clear DS1 NPC and DS-type NPC, the range and default value is 1E-4.

## **ALM,IDLD,UNIT,DS3**

### **ALARM IDLED DS3U**

#### **Explanation Of Command**

This autonomous output message reports that a failure detected on an incoming DS3 facility has been cleared.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.66011]

I hh:mm:ss xy,ww ALM IDLD UNIT [q]q DS3 c <state> COMPL

### **Explanation Of Parameters**

---

**ALM** - Alarm

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**DS3** - Digital signal 3

**c** - DS3 number (1 through 6)

**state** - Alarm state

| <i>state</i> | <i>Explanation</i> |
|--------------|--------------------|
|--------------|--------------------|

|     |                |
|-----|----------------|
| LOS | Loss of signal |
|-----|----------------|

|     |                |
|-----|----------------|
| BER | Bit error rate |
|-----|----------------|

|     |              |
|-----|--------------|
| OOF | Out of frame |
|-----|--------------|

|     |                         |
|-----|-------------------------|
| AIS | Alarm indication signal |
|-----|-------------------------|

|      |             |
|------|-------------|
| IDLE | Idle signal |
|------|-------------|

**IDLD** - Idled

## **ALM,MJ,IDLD,CCN,OOS**

### **ALARM CROSS-CONNECT NETWORK**

#### **Explanation Of Command**

This message reports an alarm on a cross-connect network (CCN) side if the CCN duplexed entities are in an unprotected state. A major alarm will be generated when a CCN side is out-of-service (OOS) and pested for two or more consecutive minutes.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.65054]

**\*\*hh:mm:ss xy,ww ALM {MJ,IDLD} CCN s OOS COMPL**

### **Explanation Of Parameters**

---

**ALM** - Alarm

**MJ** - Major  
This indicates a major alarm.

**IDLD** - Idled  
This indicates an alarm has be Idled.

**COND** - Condition

**CCN** - Cross-connect network

**s** - Cross-connect Network side number (0 or 1)

**OOS** - Out-of-service

## **ALM,MJ,IDLD,ECCN,OOS**

### **ALARM ECCN**

#### **Explanation Of Command**

This message reports an alarm on side 0 or 1 of the expanded cross-connect network side. The reported alarm notifies the craft when the ECCN duplexed entities are in an unprotected state. A major alarm is generated when an ECCN side is out-of-service and pested for two or more consecutive minutes.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.65055]

pahh:mm:ss xy,ww ALM {MJ|IDLD} ECCN s OOS COMPL

### **Explanation Of Parameters**

---

**pa** - Priority of Action

|    |             |
|----|-------------|
| pa | Explanation |
|----|-------------|

|   |             |
|---|-------------|
| I | Information |
|---|-------------|

|    |                 |
|----|-----------------|
| ** | Major condition |
|----|-----------------|

|    |                    |
|----|--------------------|
| *C | Critical condition |
|----|--------------------|

**ALM** - Alarm

**MJ** - Major

This indicates a Major alarm.

**IDLD** - Idled

This indicates the alarm has been idled.

**ECCN** - Expanded cross-connect network

**s** - Side number (0 or 1)

**OOS** - Out-of-service



## **ALM,MJ,MN,INFO,NPC**

**ALARM, DE, DS OR TE NPCs**

### **Explanation Of Command**

This autonomous message reports a major or minor alarm state for a facility performance parameter that is terminated on a DE, DS, or TE type network processing circuit.

### **Command**

Not applicable.

### **Completion Message**

Not applicable.

### **Denial Message**

Not applicable.

### **Autonomous Message**

### **Nonhierarchical**

[O.65031]

**pahh:mm:ss xy,ww ALM {MJ|MN|INFO} <parameter> NPC [s]abc COMPL**

## Hierarchical

[O.65031]

**pahh:mm:ss xy,ww ALM {MJ|MN|INFO} <parameter> NPC uvmnp COMPL**

## Explanation Of Parameters

**pa** - Priority of Action

*pa Explanation*

**I** Information

**\*** Minor alarm, nonservice affecting

**\*\*** Major alarm, service affecting

**\*C** Critical alarm, service affecting

**ALM** - Alarm

**MJ** - Major

**MN** - Minor

**INFO** - Informational

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |

| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

## **parameter**

- Facility performance parameter:

For DE type NPCs, parameters with values rr = 1 through 8 are valid.  
For DS type NPCs, parameters with values rr = 1 through 10 are valid.  
For TE type NPCs, parameters with values rr = 1 through 8 are valid.  
For Clear-DS1 DE type NPCs, parameters with values rr = 1 through 4 are valid.  
For Clear-DS1 TE type NPCs, parameters with values rr = 1 through 2 are valid.

| <b>rr</b> | Parameter                             | Threshold<br>Value<br>Range | Default<br>Threshold<br>Value |
|-----------|---------------------------------------|-----------------------------|-------------------------------|
| <b>01</b> | Slip major                            | 000 to 255                  | 255                           |
| <b>02</b> | Slip minor                            | 000 to 255                  | 4                             |
| <b>03</b> | Bit Error Rate major                  | 1E-3* to 1E-6 <sup>†</sup>  | 1E-3*                         |
| <b>04</b> | Bit Error Rate minor                  | 1E-3* to 1E-6 <sup>†</sup>  | 1E-6                          |
| <b>05</b> | Errored Seconds <sup>‡</sup>          | 00001 to 65535              | 864                           |
| <b>06</b> | Severely Errored Seconds <sup>‡</sup> | 001 to 255                  | 225                           |
| <b>07</b> | Change of Frame Alignment major       | 001 to 511                  | 511                           |

|           |                                 |                |       |
|-----------|---------------------------------|----------------|-------|
| <b>08</b> | Change of Frame Alignment minor | 001 to 255     | 17    |
| <b>09</b> | Shelf Alarm Near End(SANE)§     | 00001 to 65535 | 00000 |
| <b>10</b> | Shelf Alarm Far End(SAFE)§      | 00001 to 65535 | 00000 |

\* 4 for clear-DS1 NPCs or DS type NPCs (default)

† 7 on DE or TE type NPCs using T1DM (x = 4) or ESF (x = 2 or 3) framing

‡ Only applicable to DE or TE type NPCs using T1DM (x = 4) or ESF (x = 2 or 3) framing

§ Applicable only to DS type NPCs

**Note 1:** Major thresholds must be greater than minor thresholds.

**Note 2:** For Bit Error Rates, enter only the power of 10 (DACS assumes its sign is negative). For example, for a BER of  $10^{-3}$  (.001), enter 3.

**Note 3:** Slip major and Slip minor threshold crossing alarms may be disabled by programming threshold values of zero for the respective parameters.

## **ALM,MN,IDLD,DS3UNPROTALM,DS3U**

### **ALARM DS3 PROTECTION STATUS**

#### **Explanation Of Command**

This message reports an alarm on a DS3U. A minor alarm message will be generated if DS3 service on a DS3U is unprotected as a result of manual commands.

This alarm will only be generated if the user uses another input command (CHG::DS3UNPROTALM) to activate the alarm generation. If the user deactivates it (using the same command), the alarm will not be generated, even if DS3 service is unprotected.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.66021]

\* hh:mm:ss xy,ww ALM {MN|IDLD} DS3UNPROTALM DS3U [q]q COMPL

### **Explanation Of Parameters**

---

**ALM** - Alarm

**MN** - Minor

This indicates a minor alarm

**IDLD** - Idled

This indicates that the alarm has been idled.

**DS3U** - DS3 Unit

**[q]q** - DS3 Unit number

**DS3UNPROTALM**

- DS3 Unprotected Alarm

Alarm indicating unprotected DS3 service due to manual commands

## **ALM,MN,IDLD,SMEM**

### **ALARM BACKUP MEMORY TRANSFER**

#### **Explanation Of Command**

This message reports when Secondary Memory card (SMEM) is out-of-service (OOS). It is cleared when SMEM is restored to service.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.65056]

pahh:mm:ss xy,ww ALM {MN|IDLD} SMEM COMPL



### **Explanation Of Parameters**

---

**pa** - Priority of Action

*pa*      *Explanation*

\*          Minor alarm  
I          Information

**ALM** - Alarm

**MN** - Minor alarm

**IDLD** - Alarm idled

**SMEM** - Secondary memory card.

## **ALM,RESET,DATE,TOD,FORMAT,MDY,DMY**

### **ALARM RESET**

#### **Explanation Of Command**

This autonomous output message reports that the date and/or time have been reset because of a DACS II frame reset or because Message I.34001 (RST MC) has been entered.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.65051]

\* hh:mm:ss xy,ww ALM RESET {DATE|TOD|TOD DATE} hr:mn:sc \  
{mo/da/yr FORMAT MDY|da/mo/yr FORMAT DMY} COMPL

### **Explanation Of Parameters**

---

**DATE** - Date

**TOD** - Time of day

**FORMAT** - Allows user to set date format to either USA or International format

**MDY** - USA format (Month, Day, Year)

**DMY** - International format (Day, Month, Year)

**yr** - Year number (four digits)

**mo** - Month number

**da** - Day of month number

**hr** - Hour of day

**mn** - Minute of hour

**sc** - Second of minute

## **ALM,UNIT,DS3**

### **ALARM DS3U**

#### **Explanation Of Command**

This autonomous message reports a failure detected on an incoming DS3 facility. It also reports an increase in the severity of the situation that caused the alarm (see the alarm states shown in the Explanation of Parameters below).

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.66001]

pahh:mm:ss xy,ww ALM UNIT [q]q DS3 c <state> COMPL

### **Explanation Of Parameters**

---

**pa** - Priority of action

*pa Explanation*

\*C Critical  
I Information (AIS or IDLE)

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**DS3** - Digital signal 3

**c** - DS3 number (1 through 6)

**state** - Alarm state (listed according to severity)

*stateExplanation*

LOS Loss of signal  
BER (High) Bit error rate  
OOF Out of frame  
AIS Alarm indication signal  
IDLE Idle signal

## **ALW,PMREPT,NPC,ALL**

### **ALLOW DS1 PERFORMANCE MONITORING REPORT**

#### **Explanation Of Command**

This message reenables DACS II scheduled performance monitoring report output for DA and TA type NPCs that had been inhibited by the use of the "Inhibit Performance Monitoring Report" message (I.51161). The user may reenables performance monitoring report output for a single, range or all NPCs on the frame.

This command will handle NPC addressing in the input command as follows: If only a single NPC is addressed in the input command, then either a completion or denial response will be generated for the addressed NPC. DACS II will always deny invalid commands to specifically addressed NPCs.

If a range of NPCs is addressed and the feature applies to one or more NPCs within the range, DACS II will reenables outputting the scheduled reports for the NPCs in the range that support this feature, but skip the NPCs which do not support this feature. DACS II provides a variety of line termination types which support different features and can be randomly mixed within the frame. If at least one of the NPCs in the addressed range supports this feature, DACS II will generate a completion response for the entire range of NPCs; individual denial responses will not be generated for NPCs within the range which do not support the feature. If *none* of the NPCs in the addressed range support the requested feature, DACS II will generate a range denial response.

#### **Command**

#### **Nonhierarchical**

[I.51171]

**ALW:FRM xy,SEQ ww:PMREPT,{NPC [s]abc[-[t]def]|ALL}!**

### **Hierarchical**

---

[I.51171]

ALW:FRM xy,SEQ ww:PMREPT,{NPC uvmnp[-wxkqr]|ALL}!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.51171]

M hh:mm:ss xy,ww n[vv] ALW PMREPT {NPC [s]abc-[t]def|ALL} COMPL

### **Hierarchical**

---

[O.51171]

M hh:mm:ss xy,ww n[vv] ALW PMREPT {NPC uvmnp-wxkqr|ALL} COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.51171.01]

M hh:mm:ss xy,ww n[vv] ALW PMREPT {NPC [s]abc-[-[t]def]|ALL} COND cc DNY

### **Hierarchical**

---

[O.51171.01]

M hh:mm:ss xy,ww n[vv] ALW PMREPT {NPC uvmnp[-wxkqr]|ALL} COND cc DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical starting NPC number

[t]def - The 3- or 4-digit nonhierarchical ending NPC number

The valid values are:

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |



If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical starting NPC number

**wxkqr** - Hierarchical ending NPC number

**PMREPT** - Performance Monitoring Report

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                                                 |
|-----------|-----------------------------------------------------------------|
| <b>15</b> | NPC is unequipped                                               |
| <b>26</b> | NPC type error                                                  |
| <b>0D</b> | PM scheduling report is already allowed for this entity         |
| <b>17</b> | Command did not execute for any entity specified in the command |
| <b>89</b> | Interval is not valid/not available                             |

## **ALWSW,UNIT,MMFG,TOPRTN,TOSRVC**

### **ALLOW SWITCH OF MMFG**

#### **Explanation Of Command**

This command requests removal of the inhibition of automatic protection switching from a range of service multiplexer-multiple interface unit functional group (MMFG) in a DS3 unit to the protection MMFG in that unit or the automatic switch back from the protection MMFG of a DS3 unit to the service MMFG c[-d] of that unit. Only automatic protection switches due to failure will be affected by this message.

The command will always specify the number of the service MMFGs involved, even in the case of the command to allow switch back from the protection MMFG.

When the **TOSRVC** keyword is specified, a range of MMFGs is not acceptable. The command will be denied by the parser.

This command may cause an immediate protection switching/switch back if the original MMFG is out-of-service or is pested. In this case, an autonomous message that indicates the occurrence of the switch will be printed out.

#### **Command**

[I.35301]

**ALWSW:FRM xy,SEQ ww:UNIT [q]q,MMFG c[-d],{TOPRTN|TOSRVC}!**

#### **Completion Message**

[O.35301]

**M hh:mm:ss xy,ww n[vv] ALWSW UNIT [q]q MMFG a {TOPRTN|TOSRVC} \**  
**COMPL**

### Denial Message

---

[O.35301.01]

M hh:mm:ss xy,ww n[vv] ALWSW UNIT [q]q MMFG a {TOPRTN|TOSRVC} \  
COND cc DNY

### Autonomous Message

---

Not applicable.

### Explanation Of Parameters

---

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**MMFG** - Multiplexer-multiple interface unit functional group

**c, d** - The number of the MMFG within the unit (1 through 6)

When the TOSRVC keyword is specified, a range of MMFGs is not acceptable. The command will be denied by the parser.

**TOPRTN** - To protection pack

**TOSRVC** - To service pack

**a** - The number of the service MMFG within the range c and d

**cc** - Hexadecimal condition code

**cc** *Explanation*

**10** Unit is not equipped

**11** UC is out of service

**12** UC is in service but failed

**44** Service MXR is not equipped

**4B** The Service MMFG is already under protection

**4C** The Service MMFG is not under protection

**4D** The switch is allowed (not inhibited)

## **APPEND,END**

---

### **APPEND COMPONENT COMMAND**

#### **Explanation Of Command**

---

This message is used, during a macro session, to add one or more commands to an existing macro. Commands are added following the location specified by **line number** or **END**. If neither **line number** or **END** is specified then the command(s) being added will be added on the line following the current position of the line pointer. This position may be determined by use of the LINE command.

#### **Command**

---

[I.19041]

**APPEND[:FRM xy,SEQ ww:{<line number>|END}]!**

#### **Completion Message**

---

[O.19041]

**M hh:mm:ss xy,ww n[vv] APPEND[ {<line number>|END}] COMPL**

#### **Denial Message**

---

[O.19041.01]

**M hh:mm:ss xy,ww n[vv] APPEND[ {<line number>|END}] COND cc \**  
**DNY**

#### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

---

### **line number**

- Line number at which to begin appending (0, 1, 2, 3, ...)

If a line number is specified, a command being added will be appended to this line. That is, the new command will be placed on the line following the line pointed to by the line number. The line pointer will then move down to point to the position of the new command. If more than one command has been entered the line pointer will move to the position of the last line entered.

### **END** - End

End is a special line number that marks the position of the last line in the macro. If END is specified, the new command will be placed on the line following the line pointed to by END. The line pointer will then move down to point to the position of the new command. END will then be the line number of the new command. If more than one command has been entered, END will be the line number of the last line entered.

### **COND** - Condition

### **cc** - Hexadecimal condition code

| <b>cc</b> | <i>Explanation</i> |
|-----------|--------------------|
|-----------|--------------------|

|           |                              |
|-----------|------------------------------|
| <b>60</b> | User macro/map space is full |
| <b>6B</b> | Invalid line number          |
| <b>6E</b> | No edit session active       |

## **AR01,MISC,ALM,CGA,LOS**

**AR01 MISCELLANEOUS ALARM, CGA, PBA OR  
LOS**

### **Explanation Of Command**

This autonomous message reports a DACS II Carrier Group Alarm (CGA) or Loss of Signal (LOS) on a facility terminated on a particular Network Processing Circuit. Once a CGA Red/LOS has been detected, DACS II inserts downstream trunk conditioning and transmits a yellow signal in the upstream direction.

### **Command**

Not applicable.

### **Completion Message**

Not applicable.

### **Denial Message**

Not applicable.

### **Autonomous Message**

### **Nonhierarchical**

[O.65011]

pahh:mm:ss xy,ww AR01 MISC ALM <state> {CGA|LOS} [s]abc \  
[k] COMPL

## Hierarchical

[O.65011]

pahh:mm:ss xy,ww AR01 MISC ALM <state> {CGA|LOS} uvmnp \  
[k] COMPL

## Explanation Of Parameters

**pa** - Priority of action

*pa Explanation*

I Information

\* Minor alarm

\*\* Major alarm

\*C Critical alarm

**MISC** - Miscellaneous

**ALM** - Alarm

**CGA** - Carrier group alarm

**LOS** - Loss of signal

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |



|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The values are listed below:

DE, DS, and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**state** - Alarm status

*state*    *Explanation*

MJ    Major  
MN    Minor  
INFO    Information

**k** - Type of CGA alarm

*k*    *Explanation*

- A** AIS - Alarm Indication Signal; also known as All Ones Signal or Blue Signal
- B** Both - Yellow and Red (Note: B is valid only for SLC® Series 5 NPCs)
- L** LMA - Local Multiframe Alarm
- M** RMA - Remote Multiframe Alarm
- R** Red
- Y** Yellow

## **AR01,MISC,ALM,IDLD,CGA,LOS**

### **ALARM IDLD**

#### **Explanation Of Command**

This autonomous message indicates that the carrier group alarm (CGA) on a facility terminated on a particular network processing circuit has been cleared.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

#### **Nonhierarchical**

[O.65021]

I hh:mm:ss xy,ww AR01 MISC ALM IDLD {CGA|LOS} [s]abc[ k] COMPL

## Hierarchical

[O.65021]

**I** hh:mm:ss xy,ww **AR01 MISC ALM IDLD {CGA|LOS} uvmnp[ k] COMPL**

## Explanation Of Parameters

**MISC** - Miscellaneous

**ALM** - Alarm

**IDLD** - Idled

**CGA** - Carrier group alarm

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

**LOS** - Loss of signal

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |

| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The valid values are listed below:

DE, DS, and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**k** - Type of CGA alarm

*k*      *Explanation*

**A**      AIS - Alarm Indication Signal; also known as All Ones Signal or Blue Signal  
**B**      Both - Yellow and Red (Note: B is valid only for SLC® Series 5 NPCs)  
**L**      LMA - Local Multiframe Alarm  
**M**      RMA - Remote Multiframe Alarm  
**R**      Red  
**Y**      Yellow

## **AUD,PARAMS**

---

### **ERROR RECOVERY**

#### **Explanation Of Command**

---

This autonomous output message indicates the end-of-midnight report.

#### **Command**

---

Not applicable.

#### **Completion Message**

---

Not applicable.

#### **Denial Message**

---

Not applicable.

#### **Autonomous Message**

---

[O.81006]

I hh:mm:ss xy,ww AUD PARAMS COMPL

#### **Explanation Of Parameters**

---

**NPC** - Network processing circuit.



## **AUD,QRY,BER,ALL,FTU,NPCS,TOT,EOM,DS3U**

### **RETRIEVE EVENT EQUIPMENT**

#### **Explanation Of Command**

This message lists all facility terminating and DS3 unit network processing circuits associated with facilities exceeding bit error rate thresholds.

#### **Command**

Not applicable.

## Completion Message

### Nonhierarchical

For a Facility Terminating Module (FTM):

[O.81003]

M hh:mm:ss xy,ww n[vv] AUD QRY BER ALL FTU NPCS [s]abc-[t]def \  
TOT nnn 5 LN MSG:

XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX EOM

.  
.  
.

M hh:mm:ss xy,ww n[vv] AUD QRY BER ALL FTU NPCS [s]abc-[t]def \  
TOT nnn 5 LN MSG:

XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX COMPL

For a DS3 module (Multiplexer):

[O.81003]

M hh:mm:ss xy,ww n[vv] AUD QRY BER ALL DS3U NPCS [s]abc-[t]def \  
TOT nnn 5 LN MSG:

XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX EOM

.  
.  
.

M hh:mm:ss xy,ww n[vv] AUD QRY BER ALL DS3U NPCS [s]abc-[t]def \  
TOT nnn 5 LN MSG:

XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX COMPL

## **Hierarchical**

---

For a Facility Terminating Module (FTM):

[O.81003]

M hh:mm:ss xy,ww n[vv] AUD QRY BER ALL FTU NPCS uvmnp-uvmqr \  
TOT nnn 5 LN MSG:

xx xx xx xx xx xx xx xx xx xx  
xx xx xx xx xx xx xx xx xx xx  
xx xx xx xx xx xx xx xx xx xx  
xx xx xx xx xx xx xx xx xx xx EOM

.  
.  
.

M hh:mm:ss xy,ww n[vv] AUD QRY BER ALL FTU NPCS uvmnp-uvmqr \  
TOT nnn 5 LN MSG:

xx xx xx xx xx xx xx xx xx xx  
xx xx xx xx xx xx xx xx xx xx  
xx xx xx xx xx xx xx xx xx xx  
xx xx xx xx xx xx xx xx xx xx COMPL

For a DS3 module (Multiplexer):

[O.81003]

M hh:mm:ss xy,ww n[vv] AUD QRY BER ALL DS3U NPCS uvmnp-uvmqr \  
TOT nnn 5 LN MSG:

xx xx xx xx xx xx xx  
xx xx xx xx xx xx xx  
xx xx xx xx xx xx xx  
xx xx xx xx xx xx xx EOM

.  
.  
.

M hh:mm:ss xy,ww n[vv] AUD QRY BER ALL DS3U NPCS uvmnp-uvmqr \  
TOT nnn 5 LN MSG:

xx xx xx xx xx xx xx  
xx xx xx xx xx xx xx  
xx xx xx xx xx xx xx  
xx xx xx xx xx xx xx COMPL

### **Denial Message**

---

Not applicable.

### **Autonomous Message**

---

### **Nonhierarchical**

---

For a Facility Terminating Module (FTM):

[O.81003]

I hh:mm:ss xy,ww AUD QRY BER ALL FTU NPCS [s]abc-[t]def \  
TOT nnn 5 LN MSG:  
XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX EOM

.  
.  
.

I hh:mm:ss xy,ww AUD QRY BER ALL FTU NPCS [s]abc-[t]def \  
TOT nnn 5 LN MSG:  
XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX COMPL

For a DS3 module (Multiplexer):

[O.81003]

```
I hh:mm:ss xy,ww  AUD QRY BER ALL DS3U NPCS [s]abc-[t]def \  
TOT nnn  5 LN MSG:  
XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX  EOM
```

.  
.  
.

```
I hh:mm:ss xy,ww  AUD QRY BER ALL DS3U NPCS [s]abc-[t]def \  
TOT nnn  5 LN MSG:  
XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX  COMPL
```

## **Hierarchical**

---

For a Facility Terminating Module (FTM):

[O.81003]

```
I hh:mm:ss xy,ww  AUD QRY BER ALL FTU NPCS uvmnp-uvmqr \  
TOT nnn  5 LN MSG:  
XX XX XX XX XX  XX XX XX XX XX  
XX XX XX XX XX  XX XX XX XX XX  
XX XX XX XX XX  XX XX XX XX XX  
XX XX XX XX XX  XX XX XX XX XX  EOM
```

.  
.  
.

```
I hh:mm:ss xy,ww  AUD QRY BER ALL FTU NPCS uvmnp-uvmqr \  
TOT nnn  5 LN MSG:  
XX XX XX XX XX  XX XX XX XX XX  
XX XX XX XX XX  XX XX XX XX XX  
XX XX XX XX XX  XX XX XX XX XX  
XX XX XX XX XX  XX XX XX XX XX  COMPL
```

For a DS3 module (Multiplexer):

[O.81003]

```
I hh:mm:ss xy,ww  AUD QRY BER ALL DS3U NPCS uvmnp-uvmqr \
TOT nnn  5 LN MSG:
XX XX XX XX XX XX XX
XX XX XX XX XX XX XX
XX XX XX XX XX XX XX
XX XX XX XX XX XX XX  EOM
```

.  
.  
.

```
I hh:mm:ss xy,ww  AUD QRY BER ALL DS3U NPCS uvmnp-uvmqr \
TOT nnn  5 LN MSG:
XX XX XX XX XX XX XX
XX XX XX XX XX XX XX
XX XX XX XX XX XX XX
XX XX XX XX XX XX XX  COMPL
```

### Explanation Of Parameters

**BER** - Bit error rate

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number  
The first NPC in a module.

**[t]def** - The 3- or 4-digit nonhierarchical NPC number  
The last NPC in a module.

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

The first NPC in a range.

**uvmqr** - Hierarchical NPC number

The last NPC in a range.

**uv** - Unit number

**m** - Module number

**np, qr** - NPC number within the module

The values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**nnn** - Number of NPCs with BER values greater than BER minor threshold or  
number of NPCs with the parameter threshold exceeded.



**xx** - Alarm State

*xx Explanation*

CL Clear

ER Error

MJ Major

MN Minor

-- NPC is unequipped or out of service

**Note:** For the NPCs in Multiplexers (MXRs), one output module corresponds to all the NPCs in an MXR.

## **AUD, QRY, BER, ALL, NPCS, TOT**

### **AUDIT QUERY**

#### **Explanation Of Command**

This message indicates all equipped facility terminating and DS3 unit network processing circuits have zero values for the BER parameter since local midnight.

The scope of this message includes both FTU and DS3U type NPCs.

#### **Command**

Not applicable.

#### **Completion Message**

[O.81005]

M hh:mm:ss xy,ww n[vv] AUD QRY BER ALL NPCS TOT 0000 COMPL

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.81005]

I hh:mm:ss xy,ww AUD QRY BER ALL NPCS TOT 0000 COMPL

### **Explanation Of Parameters**

---

**BER** - Bit error rate

**ALL NPCS TOT**  
- Total of all NPCs

## **AUD,QRY,CFA,CGA,LOS**

### **QUERY FACILITY ALARMS**

#### **Explanation Of Command**

This message requests a listing of all Network Processing Circuits (NPCs) reporting a Carrier Failure Alarm (CFA), a Carrier Group Alarm (CGA), or a Loss of Signal (LOS) alarm,

For carrier group alarms the CGA and CFA keywords are alternatives and may be used interchangeably on input. However, the CFA keyword has the capability to cause a report of the alarms enabled via command I.51011.

*The alarm report is followed by reports of the form [O.81002], [O.81003] and [O.81004] — if their respective parameters have been enabled as specified in Message I.51101.*

The end of the report is indicated by AUD PARAMS COMPL.

For an autonomous message, the link field "n" is blank.

#### **Command**

[I.81001]

**AUD:FRM xy,SEQ ww:QRY,{CFA|CGA|LOS}!**

## **Completion Message**

---

### **Nonhierarchical**

---

USAGE: CGA report

[O.81001]

M hh:mm:ss xy,ww n[vv] AUD AR02 ALARM SUM nnnn REPORTS FOLLOW:

M hh:mm:ss xy,ww n[vv] SC ALM <state> CGA [s]abc k COMPL

.  
.  
.

M hh:mm:ss xy,ww n[vv] SC ALM <state> CGA [s]abc k COMPL

M hh:mm:ss xy,ww n[vv] AR01 MISC ALM <state> {CGA|CFA|LOS} [s]abc \  
[k] COMPL

.  
.  
.

M hh:mm:ss xy,ww n[vv] AR01 MISC ALM <state> {CGA|CFA|LOS} [s]abc \  
[k] COMPL

M hh:mm:ss xy,ww n[vv] AUD {CGA|CFA|LOS} END COMPL

M hh:mm:ss xy,ww n[vv] AUD PARAMS COMPL

USAGE: CFA report

[O.81001]

M hh:mm:ss xy,ww n[vv] AUD AR02 ALARM SUM nnnn REPORTS FOLLOW:

M hh:mm:ss xy,ww n[vv] SC ALM <state> CGA [s]abc k COMPL

.  
.  
.

M hh:mm:ss xy,ww n[vv] SC ALM <state> CGA [s]abc k COMPL

M hh:mm:ss xy,ww n[vv] AR01 MISC ALM <state> {CGA|CFA|LOS} [s]abc \  
[k] COMPL

.  
.  
.

M hh:mm:ss xy,ww n[vv] AR01 MISC ALM <state> {CGA|CFA|LOS} [s]abc \  
[k] COMPL

M hh:mm:ss xy,ww n[vv] AUD {CGA|CFA|LOS} END COMPL

(The following message segment appears only if appropriate)

M hh:mm:ss xy,ww n[vv] AUD QRY <parameter> ALL FTU NPCS \  
[s]abc-[t]def TOT nnn 5 LN MSG:

XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX {EOM|COMPL}

(The following message segment appears only if appropriate)

M hh:mm:ss xy,ww n[vv] AUD QRY <parameter> ALL DS3U NPCS \  
[s]abc-[t]def TOT nnn 5 LN MSG:

XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX {EOM|COMPL}

M hh:mm:ss xy,ww n[vv] AUD PARAMS COMPL

## **Hierarchical**

---

USAGE: CGA report

[O.81001]

M hh:mm:ss xy,ww n[vv] AUD AR02 ALARM SUM nnnn REPORTS FOLLOW:

M hh:mm:ss xy,ww n[vv] SC ALM <state> CGA uvmnp k COMPL

.  
.  
.

M hh:mm:ss xy,ww n[vv] SC ALM <state> CGA uvmnp k COMPL

M hh:mm:ss xy,ww n[vv] AR01 MISC ALM <state> {CGA|CFA|LOS} uvmnp \  
[k] COMPL

.  
.  
.

M hh:mm:ss xy,ww n[vv] AR01 MISC ALM <state> {CGA|CFA|LOS} uvmnp \  
[k] COMPL

M hh:mm:ss xy,ww n[vv] AUD {CGA|CFA|LOS} END COMPL

M hh:mm:ss xy,ww n[vv] AUD PARAMS COMPL

USAGE: CFA report

[O.81001]

M hh:mm:ss xy,ww n[vv] AUD AR02 ALARM SUM nnnn REPORTS FOLLOW:

M hh:mm:ss xy,ww n[vv] SC ALM <state> CGA uvmnp k COMPL

.  
.  
.

M hh:mm:ss xy,ww n[vv] SC ALM <state> CGA uvmnp k COMPL

M hh:mm:ss xy,ww n[vv] AR01 MISC ALM <state> {CGA|CFA|LOS} uvmnp \  
[k] COMPL

.  
.  
.

M hh:mm:ss xy,ww n[vv] AR01 MISC ALM <state> {CGA|CFA|LOS} uvmnp \  
[k] COMPL

M hh:mm:ss xy,ww n[vv] AUD {CGA|CFA|LOS} END COMPL

(The following message segment appears only if appropriate)

M hh:mm:ss xy,ww n[vv] AUD QRY <parameter> ALL FTU NPCS \  
uvmnp-uvmqr TOT nnn 5 LN MSG:

XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX {EOM|COMPL}

(The following message segment appears only if appropriate)

M hh:mm:ss xy,ww n[vv] AUD QRY <parameter> ALL DS3U NPCS \  
uvmnp-uvmqr TOT nnn 5 LN MSG:

XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX {EOM|COMPL}

M hh:mm:ss xy,ww n[vv] AUD PARAMS COMPL

### Denial Message

Not applicable.



## **Autonomous Message**

---

## **Nonhierarchical**

---

[O.81001]

I hh:mm:ss xy,ww    AUD AR02 ALARM SUM nnnn REPORTS FOLLOW:

I hh:mm:ss xy,ww    SC ALM <state> CGA [s]abc k COMPL

.  
.  
.

I hh:mm:ss xy,ww    SC ALM <state> CGA [s]abc k COMPL

I hh:mm:ss xy,ww    AR01 MISC ALM <state> {CGA|CFA|LOS} [s]abc \  
[k] COMPL

.  
.  
.

I hh:mm:ss xy,ww    AR01 MISC ALM <state> {CGA|CFA|LOS} [s]abc \  
[k] COMPL

I hh:mm:ss xy,ww    AUD {CGA|CFA|LOS} END COMPL

I hh:mm:ss xy,ww    AUD PARAMS COMPL

## **Hierarchical**

---

[O.81001]

**I hh:mm:ss xy,ww    AUD AR02 ALARM SUM nnnn REPORTS FOLLOW:**

**I hh:mm:ss xy,ww    SC ALM <state> CGA uvmnp k COMPL**

.  
.  
.

**I hh:mm:ss xy,ww    SC ALM <state> CGA uvmnp k COMPL**

**I hh:mm:ss xy,ww    AR01 MISC ALM <state> {CGA|CFA|LOS} uvmnp \**  
**[k] COMPL**

.  
.  
.

**I hh:mm:ss xy,ww    AR01 MISC ALM <state> {CGA|CFA|LOS} uvmnp \**  
**[k] COMPL**

**I hh:mm:ss xy,ww    AUD {CGA|CFA|LOS} END COMPL**

**I hh:mm:ss xy,ww    AUD PARAMS COMPL**

## **Explanation Of Parameters**

---

**CFA**    - Carrier failure alarm

Use this keyword to list carrier group alarms and alarms enabled by command UTL::TOD (I.51011).

**CGA**    - Carrier group alarm

Use this keyword to list only carrier group alarms.

**LOS**    - Loss of signal

**PARAMS**    - Parameters

**AR01**    - Alarm report 1

**AR02**    - Alarm report 2

**ALARM** - Alarm

**SUM**    - Summary

**REPORTS**

- Reports

**FOLLOW**

- Follow

**NPC**

- Network processing circuits

**MISC**

- Miscellaneous

**END**

- End

**[s]abc**

- The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The values are listed below:

DE, DS, and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**nnnn** - Total number of CGA/CFA reports

**SC** - Subscriber (loop) carrier

**ALM** - Alarm

**state** - Alarm status

| <i>state</i> | <i>Explanation</i> |
|--------------|--------------------|
| MJ           | Major              |
| MN           | Minor              |
| INFO         | Information        |

**k** - Type of alarm

| <i>k</i> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|          |                                                                             |
|----------|-----------------------------------------------------------------------------|
| <b>A</b> | AIS - Alarm Indication Signal; also known as All Ones Signal or Blue Signal |
| <b>B</b> | Both - Yellow and Red (Note: B is valid only for SLC® Series 5 NPCs)        |
| <b>L</b> | LMA - Local Multiframe Alarm                                                |
| <b>M</b> | RMA - Remote Multiframe Alarm                                               |
| <b>R</b> | Red                                                                         |
| <b>Y</b> | Yellow                                                                      |

## **AUD, QRY, CFA, CGA, LOS**

### **AUDIT QUERY NPC PARAMETER**

#### **Explanation Of Command**

This command is used to request the value of selected facility performance parameters of all FTU or DS3U NPCs that are associated with active Carrier Group Alarms (CGAs) or Carrier Failure Alarms (CFAs). Only those parameters that were enabled by the UTL::TOD, FAC (51011) command are reported.

The output messages may be the result of executing the AUD::QRY, {CFA|CGA|LFVR|FFER} command or they may be autonomously produced.

The output messages are part of the "midnight report" parameter count section. The parameter count section appears:

- Manually: Immediately when requested by the AUD::QRY, CFA command.
- Autonomously: Daily at the time scheduled with the UTL::TOD command (default is midnight).

#### **Command**

[I.81001]

**AUD: [FRM xy, SEQ ww]: QRY, {CFA|CGA|LOS}!**

## Completion Message

### Nonhierarchical

[O.81002]

M hh:mm:ss xy,ww n[vv] AUD QRY <parameter> ALL FTU NPCS \  
[s]abc-[t]def TOT nnn 5 LN MSG:  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX EOM

.  
.  
.

M hh:mm:ss xy,ww n[vv] AUD QRY <parameter> ALL FTU NPCS \  
[s]abc-[t]def TOT nnn 5 LN MSG:  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX EOM

M hh:mm:ss xy,ww n[vv] AUD QRY <parameter> ALL DS3U NPCS \  
[s]abc-[t]def TOT nnn 5 LN MSG:  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX EOM

.  
.  
.

M hh:mm:ss xy,ww n[vv] AUD QRY <parameter> ALL DS3U NPCS \  
[s]abc-[t]def TOT nnn 5 LN MSG:  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX COMPL

## Hierarchical

[O.81002]

M hh:mm:ss xy,ww n[vv] AUD QRY <parameter> ALL FTU NPCS \  
uvmnp-uvmqr TOT nnn 5 LN MSG:  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX EOM

.  
.  
.

M hh:mm:ss xy,ww n[vv] AUD QRY <parameter> ALL FTU NPCS \  
uvmnp-uvmqr TOT nnn 5 LN MSG:  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX EOM

M hh:mm:ss xy,ww n[vv] AUD QRY <parameter> ALL DS3U NPCS \  
uvmnp-uvmqr TOT nnn 5 LN MSG:  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX EOM

.  
.  
.

M hh:mm:ss xy,ww n[vv] AUD QRY <parameter> ALL DS3U NPCS \  
uvmnp-uvmqr TOT nnn 5 LN MSG:  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX COMPL

## Denial Message

Not applicable.



## Autonomous Message

### Nonhierarchical

[O.81002]

```
I hh:mm:ss xy,ww  AUD QRY <parameter> ALL FTU NPCS \
[s]abc-[t]def TOT nnn 5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM
```

.  
.  
.

```
I hh:mm:ss xy,ww  AUD QRY <parameter> ALL FTU NPCS \
[s]abc-[t]def TOT nnn 5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM
```

```
I hh:mm:ss xy,ww  AUD QRY <parameter> ALL DS3U NPCS \
[s]abc-[t]def TOT nnn 5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM
```

.  
.  
.

```
I hh:mm:ss xy,ww  AUD QRY <parameter> ALL DS3U NPCS \
[s]abc-[t]def TOT nnn 5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx COMPL
```

## Hierarchical

[O.81002]

I hh:mm:ss xy,ww AUD QRY <parameter> ALL FTU NPCS \  
uvmnp-uvmqr TOT nnn 5 LN MSG:  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX EOM

.  
.  
.

I hh:mm:ss xy,ww AUD QRY <parameter> ALL FTU NPCS \  
uvmnp-uvmqr TOT nnn 5 LN MSG:  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX EOM

I hh:mm:ss xy,ww AUD QRY <parameter> ALL DS3U NPCS \  
uvmnp-uvmqr TOT nnn 5 LN MSG:  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX EOM

.  
.  
.

I hh:mm:ss xy,ww AUD QRY <parameter> ALL DS3U NPCS \  
uvmnp-uvmqr TOT nnn 5 LN MSG:  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX COMPL

## Explanation Of Parameters

### parameter

- Facility performance parameter

For DS1 signal (Not applicable to DA or TA type NPCs):

| <i>parameter</i> | <i>Explanation</i>        |
|------------------|---------------------------|
| OOF              | Out Of Frame              |
| SLIP             | Slip counts               |
| ERS              | Errored Seconds           |
| SERS             | Severely Errored Seconds  |
| COFA             | Change Of Frame Alignment |
| BPV              | Bipolar Violation         |
| SANE             | Shelf Alarm Near End      |
| SAFE             | Shelf Alarm Far End       |

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number, the first NPC in a module.

**[t]def** - The 3- or 4-digit nonhierarchical NPC number, the last NPC in a module.

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |

| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number, the first NPC in a module.

**uvmqr** - Hierarchical NPC number, the last NPC in a module.

**uv** - Unit number  
**m** - Module number  
**np, qr** - NPC number within the module

The valid values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**TOT** - Total

**nnn** - Cumulative total number of NPCs in the module

A module is either an FTM or a Multiplexer on a DS3U with the specified facility performance parameter value greater than 0.

One DS3U output module contains the information about NPCs on one Multiplexer.

**xxxxx** - Facility performance parameter value (00000 through 65536)

## **AUD, QRY, CFA, CGA, LOS**

### **AUDIT QUERY FACILITY PERFORMANCE PARAMETERS**

#### **Explanation Of Command**

This message indicates all equipped facility terminating and DS3 unit network processing circuits have zero values for a specified facility performance parameter since local midnight.

#### **Command**

[I.81001]

**AUD: [FRM xy, SEQ ww]: QRY, {CFA|CGA|LOS}!**

#### **Completion Message**

[O.81004]

**M hh:mm:ss xy, ww n[vv] AUD QRY <parameter> ALL NPCS TOT 000 \**  
**COMPL**

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.81004]

**I hh:mm:ss xy, ww AUD QRY <parameter> ALL NPCS TOT 000 \**  
**COMPL**

### **Explanation Of Parameters**

---

**CFA** - Carrier failure alarm

**CGA** - Carrier group alarm

**ALL** - All

**NPCS** - Network processing circuits

**TOT** - Total

Total of all NPCs

#### **parameter**

- Facility performance parameter

For DS1 signal:

| <i>parameter</i> | <i>Explanation</i>        |
|------------------|---------------------------|
| OOF              | Out Of Frame              |
| SLIP             | Slip counts               |
| ERS              | Errored Seconds           |
| SERS             | Severely Errored Second   |
| COFA             | Change Of Frame Alignment |
| BPV              | Bipolar Violation         |
| SANE             | Shelf Alarm Near End      |
| SAFE             | Shelf Alarm Far End       |

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## **BADVERB — BX2**

---

This section documents the commands **BADVERB** through **BX2**.

## **BADVERB,BAD,SYNTAX,STOPPED**

### **INPUT DENIAL**

#### **Explanation Of Command**

Processing of the input message is **STOPPED** because the action verb is unrecognized (**BADVERB**) or the frame or sequence number is incorrect (**FRMERR** or **SEQERR**).

Output from this command is sent only to the link on which the command was input.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01101]

M hh:mm:ss xy,ww n[vv] {BADVERB|FRMERR|SEQERR} BAD SYNTAX \  
e LN MSG:  
First 70 characters of input message.  
Remaining text of input message STOPPED

### **Explanation Of Parameters**

---

**BADVERB**

- Bad verb

The action verb was not recognized.

**FRMERR**

- Frame error

Incorrect frame number

**SEQERR**

- Sequence error

Incorrect sequence number

**BAD**

- Bad

**STOPPED**

- Stopped

**SYNTAX**

- Syntax

**e**

- Number of lines in the message

## **BADVERB,CMD,INERR,STOPPED**

### **INPUT DENIAL**

#### **Explanation Of Command**

If the message reports STOPPED it means that the input command has been stopped or has been denied processing.

If the message reports DNY it means that an attempt has been made to execute an unlicensed or inactive command.

Note that the error field, action verb, and category are optional; a reason will always be given.

Attempts to address entities (units and NPCs) dependent upon nonconfigured units will result in the following message:

**BAD ARG CONFIG ERR.**

Output from this command is sent only to the link on which the command was input.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.



### **Autonomous Message**

---

[O.01131.01]

M hh:mm:ss xy,ww n[vv] [<BADVERB|FRMERR|SEQERR|CMD>|<actverb>] \\  
[<INERR>] <reason> e LN MSG:  
<First 70 characters of input message.>  
[<Text continued from input message>]  
<Remaining text of input message> {STOPPED|DNY}

### **Explanation Of Parameters**

---

#### **BADVERB**

- Bad verb
- The action verb was not recognized

#### **FRMERR** - Frame error

Incorrect frame number

#### **SEQERR** - Sequence error

Incorrect sequence number

#### **actverb**

- Action verb
- A valid action verb of the stopped or denied command

#### **CMD** - Command

Other command error

#### **INERR** - Input error

#### **STOPPED**

- Stopped

#### **e** - Number of lines in the message

**reason**            - Reason for stop or denial

*reason*

*Explanation*

BAD ARG

Bad argument

BAD ARG CONFIG ERR

Bad argument and configuration  
error; attempted to address  
entities such as units and  
Network Processing Circuits  
(NPCs) dependent on  
non-configured units

BAD SYNTAX

Bad syntax

CMD NOT ALLOWED

Command is not allowed in a  
macro or alternative map

RESTRICTED

Command is restricted to frame  
administrator only

ERR CMD ABT

Command error and aborted

INACT

Command is for a feature package  
which currently is inactive

MC OOS,MCOND,INSERVICE

Main Controller is out-of-service,  
maintenance condition, or in-service

RANGE ERROR

Range error

## **BCON, FROM, TO, NTR, LPD, CONV, CUS, INCL, RDC**

### **BROADCAST CROSS-CONNECTION**

#### **Explanation Of Command**

This command adds a single tributary leg to a broadcast cross-connection. It cross-connects the tributary to the indicated source.

It can be used to create a new one-way cross-connection from an existing broadcast source to the specified tributary channel. It can also be used to convert an existing two-way, two-point cross-connection to a broadcast cross-connection while adding a new tributary leg.

Data received on the broadcast tributary leg is discarded because a one-way cross-connection is created. Only data from the full tributary leg is returned to the broadcast source.

The FROM end field designates the conference backbone. The optional range fields indicate the conference width.

The allowable range is from 01 to 24 channels.

If the FROM end is not looped or is in the no transmit state and the TO end is the initial connection, then the FROM end will receive return data from the TO end.

The field in the TO end designates the tributary. The width of the tributary is indicated by a range designation and must match the backbone width. If necessary, more tributaries can be added by subsequent broadcast cross-connect commands. Received data from broadcast-only TO terminations will be dead-ended as it enters DACS II.

**Note:** Broadcast cross-connections are not allowed to the 24th channel of a DS1 using the T1DM framing format.

## **Command**

---

### **Nonhierarchical**

---

[I.13002]

BCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\  
,<tc>[, {NTR|LPD|CONV}][, {CUS|INCL}][,RDC]!

### **Hierarchical**

---

[I.13002]

BCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\  
,<tc>[, {NTR|LPD|CONV}][, {CUS|INCL}][,RDC]!

## **Completion Message**

---

### **Nonhierarchical**

---

[O.13002]

M hh:mm:ss xy,ww n[vv] BCON [s]abcddd[-eee],[t]ghijjj[-kkk] \  
2 LN MSG:  
<tc>[ {NTR|LPD|CONV}][ CUS][ RDC] COMPL

### **Hierarchical**

---

[O.13002]

M hh:mm:ss xy,ww n[vv] BCON uvmnpddd[-eee],wxkqrjjj[-kkk] \  
2 LN MSG:  
<tc>[ {NTR|LPD|CONV}][ CUS][ RDC] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.13002.01]

M hh:mm:ss xy,ww n[vv] BCON [s]abcddd[-eee],[t]ghijjj[-kkk] \\  
2 LN MSG:  
[[t]wxyzzz] cc BCAST DNY

[O.13002.02]

M hh:mm:ss xy,ww n[vv] BCON [s]abcddd[-eee],[t]ghijjj[-kkk] \\  
2 LN MSG:  
[[t]wxyzzz] COND cc DNY

#### **Hierarchical**

---

[O.13002.01]

M hh:mm:ss xy,ww n[vv] BCON uvmnpddd[-eee],wxkqrjjj[-kkk] \\  
2 LN MSG:  
[opjstzzz] cc BCAST DNY

[O.13002.02]

M hh:mm:ss xy,ww n[vv] BCON uvmnpddd[-eee],wxkqrjjj[-kkk] \\  
2 LN MSG:  
[opjstzzz] COND cc DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**FROM** - From

**TO** - To

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number

**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**uv, wx** - Unit number  
**m, k** - Module number  
**np, qr** - NPC number within the module

The values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd,**  
**jjj** - Channel numbers for beginning of channel range  
**eee,**  
**kkk** - Channel numbers for end of channel range

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**tc** - Trunk conditioning

The desired cross-connected signaling and insertion word applied when a failure occurs. The signaling and the insertion word specification are entered separately, with a comma as the delimiter.



The following signaling options are allowed:

| <i>signaling</i>      | <i>Explanation</i>                                                                                                                                                           |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TC(ijkl,mnop)         | 2-way, 4-state signaling in binary. For ESF type framing format, software will expand 4-state to 16-state by duplicating the format on the remaining frames on a superframe. |
| TC(efghijkl,mnopqrst) | 2-way, 16-state in binary. Only valid for ESF framing formats.                                                                                                               |
| TC(X'ab,X'cd)         | 2-way, 16-state in hexadecimal. Only valid for ESF framing formats.                                                                                                          |
| TRSP                  | Transparent, no signaling.                                                                                                                                                   |

The following insertion word options are allowed:

| <i>insertion word</i> | <i>Explanation</i>                                                                                                                       |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| IW X'pq               | The 8-bit pattern corresponding to the hexadecimal value of pq will be inserted in the downstream direction of a failure on either line. |
| TRB                   | Standard trouble code, equal to IW X'E4.                                                                                                 |
| MUX                   | MUX out of sync code, equal to IW X'1A.                                                                                                  |

**Note:** In a gateway application, when E1 channels are connected to T1 channels, the following rules apply to the transmittal of the Insertion Word (IW) towards the facility. If the Insertion Word needs to be transmitted towards the facility as a result of consequent action, then the Insertion Word transmitted by the T1 NPC towards its transmission facility is the Insertion Word specified in this command; however, the Insertion Word transmitted by the E1 NPC towards its facility is always X'FF.

**NTR** - No Transmit

All tributaries are broadcast only. There is no return path to the source.

**LPD** - Looped.

The source loops its broadcast back to itself. All the tributaries are broadcast only.

**CONV** - Convert

CONV is given to convert a two-way, two-point circuit to a broadcast circuit.

The first termination (NPC and channel) listed in the input message is the FROM (or source) termination in the current two-point connection. The termination next following in the command is the full tributary leg to be added in the conversion to a broadcast connection.

If the range fields eee and kkk are used, the entire width of the conference tributaries must be indicated.

**NAM** - No A-law to  $\mu$ -law

The A-law to  $\mu$ -law and  $\mu$ -law to A-law code translators on the E1 type NPC are disabled. This keyword is valid in the following types of cross-connects:

*Multi-Point:*

E1 to E1      Multi-point cross-connects have A-law to  $\mu$ -law and  $\mu$ -law to A-law set as a default. This conversion is performed on pure E1 multi-point connections in case a DS1 leg is ever added to the broadcast connection. The **NAM** keyword is used to disable the conversions. It may be desirable to disable conversions in a pure E1 multi-point cross-connect since such a connection has more quantization noise than a pure E1 two-point cross-connect. This is due to the back to back A-law to  $\mu$ -law and  $\mu$ -law to A-law conversions which are taking place.

E1 to DS1 or      Same explanation as E1 to E1.  
DS1 to E1

DS1 to DS1      Not applicable.

**CUS** - Customer

Indicates a customer controlled circuit

**RDC** - Red circuit

This keyword will cause the associated circuit to be flagged as a red circuit.

**INCL** - Inclusive

To connect a circuit or range of circuits including one or more circuits previously marked as Customer Controlled, use the INCL (inclusive) option. If this option is not used, the message will be denied if any circuits in the range are customer controlled. INCL is not needed to connect a circuit or circuits previously marked as Red Circuits.

**[t]wxy** - The 3- or 4-digit nonhierarchical NPC number involved in the denial, otherwise the same as [s]abc

**opjst** - Hierarchical NPC number involved in the denial, otherwise the same as uvmnp.

**zzz** - Channel number involved in the denial; otherwise, the same as ddd.

**BCAST** - Denial specific to broadcast conferences.

**COND** - Condition

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b> | <i>Explanation</i>                                                    |
|-----------|-----------|-----------------------------------------------------------------------|
| <b>01</b> |           | Invalid range for specified NPC type                                  |
| <b>03</b> |           | No RDC or CUS circuits and INCL keyword used                          |
| <b>04</b> |           | No NPC's out of service and OOS keyword used                          |
| <b>05</b> |           | Invalid use of CONV keyword                                           |
| <b>06</b> |           | Invalid range for specified FROM NPC type                             |
| <b>10</b> |           | NPC out of service or failed                                          |
| <b>11</b> |           | NPC not equipped                                                      |
| <b>12</b> |           | Active CCN side not IS or failed or pested or hardware OOS            |
| <b>13</b> |           | UNIT not equipped, not in service, or failed                          |
| <b>14</b> |           | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS |
| <b>15</b> |           | FTMI not equipped, not in service, or failed                          |
| <b>16</b> |           | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS   |
| <b>17</b> |           | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS |
| <b>20</b> |           | Line format types are incompatible                                    |
| <b>21</b> |           | Trunk conditioning is invalid                                         |
| <b>22</b> |           | FMC cannot be cross-connected in this format                          |
| <b>30</b> |           | Termination is already assigned                                       |
| <b>32</b> |           | Termination is under test                                             |
| <b>33</b> |           | Termination is a test port                                            |
| <b>34</b> |           | Termination is under customer control (CUS)                           |
| <b>35</b> |           | Termination is protected (RDC)                                        |
| <b>36</b> |           | Termination is not connected as indicated                             |

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                        |
|-----------|--------------|---------------------------------------------------------------------------|
| <b>50</b> |              | Trunk conditioning doesn't match that of conference                       |
| <b>51</b> |              | CUS flag doesn't match that of conference                                 |
| <b>52</b> |              | RDC flag doesn't match that of conference                                 |
| <b>53</b> |              | TO side of two-way to be converted is not an FTU NPC                      |
| <b>54</b> |              | Conversion leg is terminated                                              |
| <b>55</b> |              | Width of existing two way does not match conference width                 |
| <b>56</b> |              | FROM is a two-way and no CONV specified                                   |
| <b>57</b> |              | FROM is not a backbone leg                                                |
| <b>58</b> |              | Specified width does not match existing conference width                  |
| <b>59</b> |              | NTR invalid since existing conference is not already NTR                  |
| <b>5A</b> |              | LPD invalid since existing conference is not already LPD                  |
| <b>1A</b> |              | Required FLI not equipped, not in service, or failed                      |
| <b>1B</b> |              | Required MXR not equipped, not in service, or failed                      |
| <b>1C</b> |              | Reqd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS |
| <b>1D</b> |              | Required MIU not equipped, not in service, or failed                      |
| <b>95</b> |              | Range overlapping between FROM and TO or between two TOs                  |
| <b>D0</b> |              | FROM NPC is not provisioned as DGA                                        |
| <b>D1</b> |              | TO NPC is not provisioned as DGA                                          |
| <b>D3</b> |              | Corresponding NPC for FROM virtual channel is not provisioned             |
| <b>D4</b> |              | Corresponding NPC for TO virtual channel is not provisioned               |
| <b>D6</b> |              | Invalid FROM channel number                                               |
| <b>D7</b> |              | Invalid TO channel number                                                 |
| <b>D9</b> |              | Invalid FROM channel number range                                         |
| <b>DA</b> |              | Invalid TO channel number range                                           |
| <b>DC</b> |              | A loopback is active on the FROM termination                              |
| <b>E3</b> |              | Attempt to broadcast a locally switched channel                           |
| <b>E8</b> |              | SC invalid for cross-connection specified                                 |
| <b>E9</b> |              | MUX or TRB invalid for cross-connection specified                         |
| <b>EA</b> |              | AIS invalid for cross-connection specified                                |
| <b>EB</b> |              | NAM invalid for cross-connection specified                                |
| <b>EC</b> |              | Invalid channel 000 cross-connection specified                            |
| <b>ED</b> |              | Invalid channel 031 cross-connection specified                            |
| <b>70</b> | <b>MCOND</b> | NPC invalid type                                                          |
| <b>85</b> |              | Using the 24th channel of a T1DM NPC                                      |
| <b>FF</b> |              | Termination is in process of being rolled                                 |
| <b>E0</b> |              | ETSI not equipped, not in service, or failed                              |

| st   | d       | Explanation                   |
|------|---------|-------------------------------|
| ROLL | {F T B} | Circuit is involved in a roll |

## **BCON, FROM, TO, RDC, CUS, INCL, NTR, LPD, CONV**

### **BROADCAST CONNECT**

#### **Explanation Of Command**

This message connects a new broadcast circuit from a non-channelized source network processing circuit (NPC) to a single non-channelized tributary. It also adds a single non-channelized tributary to an existing conference.

This message also adds the indicated tributary and converts (CONV) a two-way, two-point circuit to a broadcast conference.

When a failure occurs or during an alarm state, the alarm-indication signal (AIS or all ones signal) is transmitted to the failed tributaries or to all tributaries if the source NPCs fail. If the failure occurs during the execution of this command, it is canceled and no broadcast circuit is set up.

#### **Command**

##### **Nonhierarchical**

[I.13021]

**BCON:FRM xy,SEQ ww:FROM [s]abc,TO [t]def[,RDC][,{CUS|INCL}]\  
[, {NTR|LPD|CONV}]!**

##### **Hierarchical**

[I.13021]

**BCON:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][,{CUS|INCL}]\  
[, {NTR|LPD|CONV}]!**

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.13021]

M hh:mm:ss xy,ww n[vv] BCON [s]abc,[t]def[ RDC][ {CUS|INCL}\  
[ {NTR|LPD|CONV}] COMPL

#### **Hierarchical**

---

[O.13021]

M hh:mm:ss xy,ww n[vv] BCON uvmnp,wxkqr[ RDC][ {CUS|INCL}]\  
[ {NTR|LPD|CONV}] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.13021.01]

M hh:mm:ss xy,ww n[vv] BCON [s]abc,[t]def[ [t]ghi] cc <st> DNY

#### **Hierarchical**

---

[O.13021.01]

M hh:mm:ss xy,ww n[vv] BCON uvmnp,wxkqr[ edfhg] cc <st> DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**FROM** - From termination

**TO** - To termination

**[s]abc** - The 3- or 4-digit non-hierarchical non-channelized source (backbone)  
NPC number

**[t]def** - The 3- or 4-digit non-hierarchical non-channelized tributary NPC  
number

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |



If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical number of non-channelized source NPC  
**wxkqr** - Hierarchical number of non-channelized tributary NPC

**uv, wx** - Unit number  
**m, k** - Module number  
**np, qr** - NPC number

The values are listed below:

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**Note:** An NPC cannot be broadcast-connected to itself. The desired effect can be achieved by specifying the LPD option.

**RDC** - Red circuit

**CUS** - Customer  
Customer-controlled circuit

**INCL** - Inclusive  
The INCL keyword will remove CUS marking

**NTR** - No transmit  
No transmit or return path, the tributary is broadcast only

**LPD** - Looped  
One signal is looped back to source  
If neither the NTR nor LPD keyword is specified and the broadcast conference is being established for the first time, the tributary is a full tributary, capable of transmitting back to the source; if the source has been previously established then the tributary is broadcast only.

**CONV** - Convert

CONV is given to convert a two-way, two-point circuit to a broadcast circuit.

The first termination (NPC and channel) listed in the input message is the FROM (or source) termination in the current two-point connection. The termination next following in the command is the full tributary leg to be added in the conversion to a broadcast connection.

**[t]ghi** - The 3- or 4-digit backbone leg (bbl) or tributary NPC number causing denial

**edfhg** - Hierarchical number of the backbone leg or tributary NPC causing denial

**st** - Status  
Status of denial

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                    |
|-----------|--------------|-----------------------------------------------------------------------|
| <b>01</b> | <b>RNGIE</b> | Invalid range for specified NPC type                                  |
| <b>03</b> | <b>INERR</b> | No RDC or CUS circuits and INCL keyword used                          |
| <b>05</b> | <b>BCAST</b> | Invalid use of CONV keyword                                           |
| <b>06</b> |              | Invalid range for specified FROM NPC type                             |
| <b>10</b> | <b>MCOND</b> | NPC out of service or failed                                          |
| <b>11</b> | <b>MCOND</b> | NPC not equipped                                                      |
| <b>12</b> | <b>MCOND</b> | Active CCN side not IS or failed or pested or hardware OOS            |
| <b>13</b> | <b>MCOND</b> | UNIT not equipped, not in service, or failed                          |
| <b>14</b> | <b>MCOND</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS |
| <b>15</b> | <b>MCOND</b> | FTMI not equipped, not in service, or failed                          |
| <b>16</b> | <b>MCOND</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS   |
| <b>17</b> | <b>MCOND</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS |
| <b>30</b> | <b>MCOND</b> | Termination is already assigned                                       |
| <b>32</b> | <b>MCOND</b> | Termination is under test                                             |
| <b>33</b> | <b>MCOND</b> | Termination is a test port                                            |
| <b>34</b> | <b>MCOND</b> | Termination is under customer control (CUS)                           |
| <b>35</b> | <b>MCOND</b> | Termination is protected (RDC)                                        |
| <b>36</b> |              | Termination is not connected as indicated                             |
| <b>50</b> | <b>INERR</b> | Trunk conditioning doesn't match that of conference                   |
| <b>51</b> | <b>INERR</b> | CUS flag doesn't match that of conference                             |
| <b>52</b> | <b>INERR</b> | RDC flag doesn't match that of conference                             |

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                        |
|-----------|--------------|---------------------------------------------------------------------------|
| <b>53</b> | <b>INERR</b> | TO side of two-way to be converted is not an FTU NPC                      |
| <b>54</b> | <b>INERR</b> | Conversion leg is terminated                                              |
| <b>55</b> | <b>INERR</b> | Width of existing two way does not match conference width                 |
| <b>56</b> | <b>INERR</b> | FROM is a two-way and no CONV specified                                   |
| <b>57</b> | <b>BCAST</b> | FROM is not a backbone leg                                                |
| <b>58</b> | <b>INERR</b> | Specified width does not match existing conference width                  |
| <b>59</b> | <b>INERR</b> | NTR invalid since existing conference is not already NTR                  |
| <b>5A</b> | <b>INERR</b> | LPD invalid since existing conference is not already LPD                  |
| <b>62</b> | <b>INERR</b> | NPC type mismatch                                                         |
| <b>63</b> | <b>INERR</b> | NPC is a channelized NPC                                                  |
| <b>64</b> | <b>INERR</b> | NPC is a non-channelized NPC                                              |
| <b>1A</b> | <b>MCOND</b> | Required FLI not equipped, not in service, or failed                      |
| <b>1B</b> | <b>MCOND</b> | Required MXR not equipped, not in service, or failed                      |
| <b>1C</b> | <b>MCOND</b> | Reqd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS |
| <b>1D</b> | <b>MCOND</b> | Required MIU not equipped, not in service, or failed                      |
| <b>95</b> | <b>MCOND</b> | Range overlapping between FROM and TO or between two TOs                  |
| <b>DF</b> | <b>INERR</b> | Unmatched channel range                                                   |
| <b>70</b> | <b>MCOND</b> | NPC invalid type                                                          |
| <b>FF</b> | <b>ROLL</b>  | Termination is in process of being rolled                                 |
| <b>E0</b> | <b>MCOND</b> | ETSI not equipped, not in service, or failed                              |

## **BCON, FROM, TOX, NTR, LPD, CONV, CUS, INCL**

### **BROADCAST CROSS-CONNECTIONS**

#### **Explanation Of Command**

This message sets up a broadcast from a source (FROM) NPC to up to eight tributary (TO) receiving NPCs in the same broadcast. This message is also used to add multiple TOs to an existing broadcast connection based on the specified FROM. Each of the TOs will be connected to the specified FROM. There will be at most eight TOs allowed in the argument list to the TO keyword. Note that no channel range can be specified on the TO arguments.

The channel range from 001 to 024 channels is determined by the range given for the FROM.

The **FROM** field designates the source termination. The optional range field **[-eee]** indicates the width of the conference backbone

The allowable width ranges from 001 to 024 channels and must be the same as the width of the existing conference backbone (if any).

The fields following the SOURCE designation assign the tributaries to be connected to the backbone. Although a conference may have any number of tributaries (limited only by frame configuration), at most eight at a time may be added using this command.

More tributaries can be added by subsequent **BCON** commands. Each specified tributary will have the same range width as the backbone.

If a command attempts to cross-connect a channel to the 24th channel of a DS1 provisioned with the T1DM format, the command will be denied.

## **Command**

---

### **Nonhierarchical**

---

[I.13001]

```
BCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],\  
TOX ([t]ghijjj[, [t]klmnnn, ...]),<tc>[, {NTR|LPD|CONV}]\  
[, {CUS|INCL}][, RDC]!
```

### **Hierarchical**

---

[I.13001]

```
BCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],\  
TOX (wxkqrjjj[, edhfgnnn, ...]),<tc>[, {NTR|LPD|CONV}]\  
[, {CUS|INCL}][, RDC]!
```

## **Completion Message**

---

### **Nonhierarchical**

---

[O.13001]

```
M hh:mm:ss xy,ww n[vv] BCON [s]abcddd[-eee] 3 LN MSG:  
TOX [t]ghijjj[, [u]klmnnn, ...]  
<tc>[ {NTR|LPD|CONV}][ {CUS|INCL}][ RDC] COMPL
```

### **Hierarchical**

---

[O.13001]

```
M hh:mm:ss xy,ww n[vv] BCON uvmnpddd[-eee] 3 LN MSG:  
TOX wxkqrjjj[, edhfgnnn, ...]  
<tc>[ {NTR|LPD|CONV}][ {CUS|INCL}][ RDC] COMPL
```

## **Denial Message**

---

### **Nonhierarchical**

---

[O.13001.01]

M hh:mm:ss xy,ww n[vv] BCON [s]abcddd[-eee] 3 LN MSG:  
TOX [t]ghijjj[, [t]klmnnn, ...]  
[[t]wxyz] cc BCAST DNY

[O.13001.02]

M hh:mm:ss xy,ww n[vv] BCON [s]abcddd[-eee] 3 LN MSG:  
TOX [t]ghijjj[, [t]klmnnn, ...]  
[[t]wxyz] COND cc DNY

### **Hierarchical**

---

[O.13001.01]

M hh:mm:ss xy,ww n[vv] BCON uvmnpddd[-eee] 3 LN MSG:  
TOX wxkqrjjj[, edhfgnnn, ...]  
[opjstzzz] cc BCAST DNY

[O.13001.02]

M hh:mm:ss xy,ww n[vv] BCON uvmnpddd[-eee] 3 LN MSG:  
TOX wxkqrjjj[, edhfgnnn, ...]  
[opjstzzz] COND cc DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**FROM** - From

The FROM field is the source termination.

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number  
**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number  
**[u]klm** - The 3- or 4-digit nonhierarchical TO NPC number

The values are as follows:

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |



If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**edhfg** - Hierarchical TO NPC number within a range of NPC numbers

**uv, wx, ed**

- Unit number

**m, k, h** - Module number

**np, qr, fg**

- NPC number within the module

The values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM channel number

**eee** - FROM channel number denoting the end of the range

**jjj** - TO channel number

**nnn** - TO channel number denoting the end of the range

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

The optional range field **eee** indicates the width of the conference backbone. The range field must not be repeated on the tributary legs' specification. A termination cannot be broadcast connected to itself. The desired effect can be reached by specifying the LPD option. If this message is used to add tributary legs, the width must be the same as the width of the existing conference backbone. However, a conference can have an unlimited number of tributaries, limited only by the frame configuration. More tributaries can be added by subsequent commands.

**tc** - The desired cross-connected signaling and insertion word applied when a failure occurs. The signaling and the insertion word specifications are entered separately, with a comma as the delimiter. The following signaling options are allowed:

| <i>tc</i>             | <i>Explanation</i>                                                                                                                                                           |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TC(ijkl,mnop)         | 2-way, 4-state signaling in binary. For ESF type framing format, software will expand 4-state to 16-state by duplicating the format on the remaining frames on a superframe. |
| TC(efghijkl,mnopqrst) | 2-way, 16-state in binary. Only valid for ESF framing formats.                                                                                                               |
| TC(X'ab,X'cd)         | 2-way, 16-state in hexadecimal. Only valid for ESF framing formats.                                                                                                          |
| TRSP                  | Transparent, no signaling.                                                                                                                                                   |

**Note:** TRSP is used only for domestic trunk conditioning.

The following insertion word options are allowed:

| <i>IW</i> | <i>Explanation</i>                                                                                                                       |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------|
| IW X'pq   | The 8-bit pattern corresponding to the hexadecimal value of pq will be inserted in the downstream direction of a failure on either line. |
| TRB       | Standard trouble code, equal to IW X'E4                                                                                                  |
| MUX       | MUX out of sync code, equal to IW X'1A                                                                                                   |

**Note:** In a gateway application, when E1 channels are connected to T1 channels, the following rules apply to the transmittal of the Insertion Word (IW) towards the facility. If the Insertion Word needs to be transmitted towards the facility as a result of consequent action, then the Insertion Word transmitted by the T1 NPC towards its transmission facility is the Insertion Word specified in this command; however, the Insertion Word transmitted by the E1 NPC towards its facility is always X'FF.

**NTR** - No transmit

All tributaries are broadcast only. There is no return path to the source.

**LPD** - Looped

The source loops its broadcast back to itself. All the tributaries are broadcast only.

If neither NTR nor LPD is used, and the source (FROM abcd[...]) is being established for the first time, ghijkl is a full tributary, capable of transmitting back to the source. If the source has been previously established, all tributaries are broadcast only.

**CONV** - Convert

CONV is given to convert a two-way, two-point circuit to a broadcast circuit.

The first termination (NPC and channel) listed in the input message is the FROM (or source) termination in the current two-point connection. The termination next following in the command is the full tributary leg to be added in the conversion to a broadcast connection. Additional legs may be added simultaneously by specifying additional terminations.

**NAM** - No A-law to  $\mu$ -law

The A-law to  $\mu$ -law and  $\mu$ -law to A-law code translators on the E1 type NPC are disabled. This keyword is valid in the following types of cross-connects:

*Multi-Point:*

E1 to E1      Multi-point cross-connects have A-law to  $\mu$ -law and  $\mu$ -law to A-law set as a default. This conversion is performed on pure E1 multi-point connections in case a DS1 leg is ever added to the broadcast connection. The **NAM** keyword is used to disable the conversions. It may be desirable to disable conversions in a pure E1 multi-point cross-connect since such a connection has more quantization noise than a pure E1 two-point cross-connect. This is due to the back to back A-law to  $\mu$ -law and  $\mu$ -law to A-law conversions which are taking place.

E1 to DS1 or      Same explanation as E1 to E1.  
DS1 to E1

DS1 to DS1      Not applicable.

**CUS** - Customer

Indicates a Customer-controlled Circuit

**RDC** - Red circuit

This keyword will cause the associated circuits to be flagged as red circuits.

**INCL** - Inclusive

To connect a circuit or range of circuits including one or more circuits previously marked as customer controlled, use the INCL (inclusive) option. If this option is not used, the message will be denied if any circuits in the range are customer controlled. INCL is not needed to connect a circuit or circuits previously marked as red circuits.

**[t]wxy**      - NPC number involved in the denial; otherwise, the same as [s]abc.

**zzz**      - Channel number involved in the denial; otherwise, the same as ddd.

**opjst** - Hierarchical NPC number involved in the denial, otherwise the same as uvmnp

**BCAST** - Denial specific to broadcast conferences

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b> | <i>Explanation</i>                                                        |
|-----------|-----------|---------------------------------------------------------------------------|
| <b>01</b> |           | Invalid range for specified NPC type                                      |
| <b>03</b> |           | No RDC or CUS circuits and INCL keyword used                              |
| <b>04</b> |           | No NPC's out of service and OOS keyword used                              |
| <b>05</b> |           | Invalid use of CONV keyword                                               |
| <b>06</b> |           | Invalid range for specified FROM NPC type                                 |
| <b>10</b> |           | NPC out of service or failed                                              |
| <b>11</b> |           | NPC not equipped                                                          |
| <b>12</b> |           | Active CCN side not IS or failed or pested or hardware OOS                |
| <b>13</b> |           | UNIT not equipped, not in service, or failed                              |
| <b>14</b> |           | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS     |
| <b>15</b> |           | FTMI not equipped, not in service, or failed                              |
| <b>16</b> |           | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS       |
| <b>17</b> |           | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS     |
| <b>20</b> |           | Line format types are incompatible                                        |
| <b>21</b> |           | Trunk conditioning is invalid                                             |
| <b>22</b> |           | FMC cannot be cross-connected in this format                              |
| <b>30</b> |           | Termination is already assigned                                           |
| <b>32</b> |           | Termination is under test                                                 |
| <b>33</b> |           | Termination is a test port                                                |
| <b>34</b> |           | Termination is under customer control (CUS)                               |
| <b>35</b> |           | Termination is protected (RDC)                                            |
| <b>36</b> |           | Termination is not connected as indicated                                 |
| <b>50</b> |           | Trunk conditioning doesn't match that of conference                       |
| <b>51</b> |           | CUS flag doesn't match that of conference                                 |
| <b>52</b> |           | RDC flag doesn't match that of conference                                 |
| <b>53</b> |           | TO side of two-way to be converted is not an FTU NPC                      |
| <b>54</b> |           | Conversion leg is terminated                                              |
| <b>55</b> |           | Width of existing two way does not match conference width                 |
| <b>56</b> |           | FROM is a two-way and no CONV specified                                   |
| <b>57</b> |           | FROM is not a backbone leg                                                |
| <b>58</b> |           | Specified width does not match existing conference width                  |
| <b>59</b> |           | NTR invalid since existing conference is not already NTR                  |
| <b>5A</b> |           | LPD invalid since existing conference is not already LPD                  |
| <b>1A</b> |           | Required FLI not equipped, not in service, or failed                      |
| <b>1B</b> |           | Required MXR not equipped, not in service, or failed                      |
| <b>1C</b> |           | Reqd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS |
| <b>1D</b> |           | Required MIU not equipped, not in service, or failed                      |
| <b>95</b> |           | Range overlapping between FROM and TO or between two TOs                  |
| <b>D0</b> |           | FROM NPC is not provisioned as DGA                                        |

| <b>cc</b>   | <b>st</b>      | <i>Explanation</i>                                            |
|-------------|----------------|---------------------------------------------------------------|
| <b>D1</b>   |                | TO NPC is not provisioned as DGA                              |
| <b>D3</b>   |                | Corresponding NPC for FROM virtual channel is not provisioned |
| <b>D4</b>   |                | Corresponding NPC for TO virtual channel is not provisioned   |
| <b>D6</b>   |                | Invalid FROM channel number                                   |
| <b>D7</b>   |                | Invalid TO channel number                                     |
| <b>D9</b>   |                | Invalid FROM channel number range                             |
| <b>DA</b>   |                | Invalid TO channel number range                               |
| <b>DC</b>   |                | A loopback is active on the FROM termination                  |
| <b>E3</b>   |                | Attempt to broadcast a locally switched channel               |
| <b>E8</b>   |                | SC invalid for cross-connection specified                     |
| <b>E9</b>   |                | MUX or TRB invalid for cross-connection specified             |
| <b>EA</b>   |                | AIS invalid for cross-connection specified                    |
| <b>EB</b>   |                | NAM invalid for cross-connection specified                    |
| <b>EC</b>   |                | Invalid channel 000 cross-connection specified                |
| <b>ED</b>   |                | Invalid channel 031 cross-connection specified                |
| <b>70</b>   | <b>MCOND</b>   | NPC invalid type                                              |
| <b>85</b>   |                | Using the 24th channel of a T1DM NPC                          |
| <b>FF</b>   |                | Termination is in process of being rolled                     |
| <b>E0</b>   |                | ETSI not equipped, not in service, or failed                  |
| <b>st</b>   | <b>d</b>       | <i>Explanation</i>                                            |
| <b>ROLL</b> | <b>{F T B}</b> | Circuit is involved in a roll                                 |

## **BCON, FROM, TOX, RDC, CUS, INCL, NTR, LPD**

### **BROADCAST CONNECT**

#### **Explanation Of Command**

This message cross connects a new broadcast circuit from a non-channelized source network processing circuit (NPC) to up to eight non-channelized tributaries. The NPCs can belong to different units. This message can be used to add up to eight non-channelized tributaries to an existing conference.

This message is also used to add the indicated tributaries and convert (CONV) a two-way, two-point circuit to a broadcast circuit. When a failure occurs, or during an alarm state, the alarm-indication signal (AIS-all ones) is transmitted to the failed tributaries or all tributaries if the source NPCs fail. If the failure occurs during the execution of this command, the message is canceled and no broadcast circuit is set up.

#### **Command**

##### **Nonhierarchical**

[I.13011]

```
BCON:FRM xy,SEQ ww:FROM [s]abc,TOX ([t]def[, [u]ghi]\  
[, [v]jkl][...])[,RDC][,{CUS|INCL}][,{NTR|LPD|CONV}]!
```

##### **Hierarchical**

[I.13011]

```
BCON:FRM xy,SEQ ww:FROM uvmnp,TOX (wxkqr[,edfhg]\  
[,stmno][...])[,RDC][,{CUS|INCL}][,{NTR|LPD|CONV}]!
```



## **Completion Message**

---

### **Nonhierarchical**

---

[O.13011]

M hh:mm:ss xy,ww n[vv] BCON [s]abc 3 LN MSG:  
TOX [t]def[, [u]ghi][, [v]jkl][...]  
[RDC][ CUS][ {NTR|LPD|CONV}] COMPL

### **Hierarchical**

---

[O.13011]

M hh:mm:ss xy,ww n[vv] BCON uvmnp 3 LN MSG:  
TOX wxkqr[,edfhg][,stmno][...]  
[RDC][ CUS][ {NTR|LPD|CONV}] COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.13011.01]

M hh:mm:ss xy,ww n[vv] BCON [s]abc 3 LN MSG:  
TOX [t]def[, [u]ghi][, [v]jkl][...]  
[[t]qrs] cc <st> DNY

### **Hierarchical**

---

[O.13011.01]

M hh:mm:ss xy,ww n[vv] BCON uvmnp 3 LN MSG:  
TOX wxkqr[,edfhg][,stmno][...]  
[opqrs] cc <st> DNY

## **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**Note:** An NPC cannot be broadcast-connected to itself. The desired effect can be achieved by specifying the LPD option.

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number  
[t]def - The 3- or 4-digit nonhierarchical TO NPC number  
[u]ghi - Same definition as [t]def  
[v]jkl - Same definition as [t]def  
[t]mno - Same definition as [t]def

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                              |                              |                              |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical number of non-channelized source NPC

**wxkqr** - Hierarchical tributary NPC number.

**edfhg** - Same definition as wxkqr

**stmno** - Same definition as wxkqr

**uv, wx, ed, st**

- Unit number

**m, k, f**

- Module number

**np, qr, hg, no**

- NPC number within the module

The values are:

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**RDC** - Red circuit

**CUS** - Customer  
Customer-controlled circuit

**INCL** - Inclusive  
Option will remove CUS marking

**NTR** - No transmit  
No transmit or return path, all tributaries are broadcast only

**LPD** - Looped  
One signal is looped back to source

If neither the NTR nor the LPD keyword is specified and the broadcast conference is being established for the first time, the first tributary is a full tributary, capable of transmitting back to the source; if the source has been previously established then all tributaries are broadcast only.

**CONV** - Convert

Convert a two-way, two-point circuit to a broadcast circuit by adding the indicated tributaries

The first termination (NPC and channel) listed in the input message is the FROM (or source) termination in the current two-point connection. The termination next following in the command is the full tributary leg to be added in the conversion to a broadcast connection. Additional legs may be added simultaneously by specifying additional terminations.

**[t]qrs** - The 3- or 4-digit backbone leg (bbl) or tributary NPC involved in denial

**opqrs** - Hierarchical number of the backbone leg or tributary NPC involved in denial.

**st** - Status  
Status of denial

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                    |
|-----------|--------------|-----------------------------------------------------------------------|
| <b>01</b> | <b>INERR</b> | Invalid range for specified NPC type                                  |
| <b>03</b> | <b>INERR</b> | No RDC or CUS circuits and INCL keyword used                          |
| <b>05</b> | <b>BCAST</b> | Invalid use of CONV keyword                                           |
| <b>06</b> |              | Invalid range for specified FROM NPC type                             |
| <b>10</b> | <b>MCOND</b> | NPC out of service or failed                                          |
| <b>11</b> | <b>MCOND</b> | NPC not equipped                                                      |
| <b>12</b> | <b>MCOND</b> | Active CCN side not IS or failed or pested or hardware OOS            |
| <b>13</b> | <b>MCOND</b> | UNIT not equipped, not in service, or failed                          |
| <b>14</b> | <b>MCOND</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS |
| <b>15</b> | <b>MCOND</b> | FTMI not equipped, not in service, or failed                          |
| <b>16</b> | <b>MCOND</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS   |
| <b>17</b> | <b>MCOND</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS |
| <b>30</b> | <b>MCOND</b> | Termination is already assigned                                       |
| <b>32</b> | <b>MCOND</b> | Termination is under test                                             |
| <b>33</b> | <b>INERR</b> | Termination is a test port                                            |
| <b>34</b> | <b>MCOND</b> | Termination is under customer control (CUS)                           |
| <b>35</b> | <b>MCOND</b> | Termination is protected (RDC)                                        |
| <b>36</b> |              | Termination is not connected as indicated                             |
| <b>50</b> | <b>INERR</b> | Trunk conditioning doesn't match that of conference                   |
| <b>51</b> | <b>INERR</b> | CUS flag doesn't match that of conference                             |
| <b>52</b> | <b>INERR</b> | RDC flag doesn't match that of conference                             |

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                        |
|-----------|--------------|---------------------------------------------------------------------------|
| <b>53</b> | <b>INERR</b> | TO side of two-way to be converted is not an FTU NPC                      |
| <b>54</b> | <b>INERR</b> | Conversion leg is terminated                                              |
| <b>55</b> | <b>INERR</b> | Width of existing two way does not match conference width                 |
| <b>56</b> | <b>INERR</b> | FROM is a two-way and no CONV specified                                   |
| <b>57</b> | <b>BCAST</b> | FROM is not a backbone leg                                                |
| <b>58</b> | <b>INERR</b> | Specified width does not match existing conference width                  |
| <b>59</b> | <b>INERR</b> | NTR invalid since existing conference is not already NTR                  |
| <b>5A</b> | <b>INERR</b> | LPD invalid since existing conference is not already LPD                  |
| <b>62</b> | <b>INERR</b> | NPC type mismatch                                                         |
| <b>63</b> | <b>INERR</b> | NPC is a channelized NPC                                                  |
| <b>64</b> | <b>INERR</b> | NPC is a non-channelized NPC                                              |
| <b>1A</b> | <b>MCOND</b> | Required FLI not equipped, not in service, or failed                      |
| <b>1B</b> | <b>MCOND</b> | Required MXR not equipped, not in service, or failed                      |
| <b>1C</b> | <b>MCOND</b> | Reqd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS |
| <b>1D</b> | <b>MCOND</b> | Required MIU not equipped, not in service, or failed                      |
| <b>95</b> | <b>MCOND</b> | Range overlapping between FROM and TO or between two TOs                  |
| <b>DF</b> | <b>INERR</b> | Unmatched channel range                                                   |
| <b>70</b> | <b>MCOND</b> | NPC invalid type                                                          |
| <b>FF</b> | <b>ROLL</b>  | Termination is in process of being rolled                                 |
| <b>E0</b> | <b>MCOND</b> | ETSI not equipped, not in service, or failed                              |

## **BDIS, FROM, TO, CONV, OOS, DCC, INCL**

### **BROADCAST DISCONNECTIONS**

#### **Explanation Of Command**

This command requests the disconnection of a broadcast circuit cross-connection. It can be used to disconnect any one-way tributary from a broadcast circuit, or the full tributary once all of the one-way tributaries have been disconnected.

#### **Command**

##### **Nonhierarchical**

[I.15201]

```
BDIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\  
[,CONV][,OOS][,DCC][,INCL]!
```

##### **Hierarchical**

[I.15201]

```
BDIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\  
[,CONV][,OOS][,DCC][,INCL]!
```

#### **Completion Message**

##### **Nonhierarchical**

[O.15201]

```
M hh:mm:ss xy,ww n[vv] BDIS [s]abcddd[-eee],[t]ghijjj[-kkk]\  
[ BRDIS][ CONV][ OOS][ CUS][ RDC][ DCC] COMPL
```

### **Hierarchical**

---

[O.15201]

M hh:mm:ss xy,ww n[vv] BDIS uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ BRDIS][ CONV][ OOS][ CUS][ RDC][ DCC] COMPL

### **Denial Message**

---

### **Nonhierarchical**

---

[O.15201.01]

M hh:mm:ss xy,ww n[vv] BDIS [s]abcddd[-eee],[t]ghijjj[-kkk]\  
[ [t]wxyzzz] cc BCAST DNY

[O.15201.02]

M hh:mm:ss xy,ww n[vv] BDIS [s]abcddd[-eee],[t]ghijjj[-kkk]\  
[ [t]wxyzzz] COND cc DNY

### **Hierarchical**

---

[O.15201.01]

M hh:mm:ss xy,ww n[vv] BDIS uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ edhfgzzz] cc BCAST DNY

[O.15201.02]

M hh:mm:ss xy,ww n[vv] BDIS uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ edhfgzzz] COND cc DNY

### **Autonomous Message**

---

Not applicable.



### Explanation Of Parameters

- [s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number  
**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**uv, wx** - Unit number  
**m, k** - Module number  
**np, qr** - NPC number within the module

The valid values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd, jjj**

- Channel number for beginning of channel range

**eee, kkk**

- Channel number for end of channel range.

Without the optional CONV keyword, ddd and jjj must be the lowest numbered channels in the range of channels that make up the broadcast circuit. If the range fields [-eee] and [-kkk] are used, the entire width of the conference tributaries must be indicated.

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**CONV** - Convert

The CONV keyword is given to disconnect the specified one-way tributary from the broadcast circuit and convert the circuit to a two-way, two-point circuit. For a command with this option to succeed, only the broadcast source and the full tributary leg must remain on the circuit following the disconnection of the specified one-way tributary. That is, this option will be denied if the user attempts to disconnect the full tributary rather than a one-way tributary, or if any other one-way tributaries remain on the broadcast circuit following the disconnection of the one-way tributary specified in the command.

**OOS** - Out-of-service

An OOS disconnection may be done by giving the optional OOS keyword. At least one end of the circuit must be out-of-service or the OOS disconnection will be denied.

**INCL** - Inclusive

Use the optional INCL keyword to disconnect a circuit or range of circuits including one or more circuits marked as a red circuit or under customer control. If this option is not used, the message will be denied if any circuits in the range are red circuits or customer controlled.

**DCC** - Disconnect code

If the DCC keyword is specified, DACS II will insert the user-defined disconnect code and signaling into the disconnected channels. This disconnect code and signaling are specified by the trunk conditioning field used to connect the circuit. If the DCC option is not used, the disconnect code specified in the GRTH::NPC command is used.

**[t]wxy** - The 3- or 4-digit nonhierarchical NPC number that caused the denial, with the same valid values as [s]abc.

**edhfg** - Hierarchical NPC number that caused the denial

**zzz** - Channel number that caused the denial, with the same valid value as ddd.

**BRDIS** - Broadcast disconnect

The BRDIS keyword indicates that the conference is entirely disconnected (no tributaries remain).

**CUS** - Customer

Customer-controlled circuit

CUS indicates a customer controlled circuit.

**RDC** - Red circuit

Indicates that the disconnection was performed on a red circuit.

This implies that the INCL keyword was given in the input message.

If the disconnection was given on more than one circuit, at least one of them was a red circuit or under customer control.

**BCAST** - Broadcast

**cc** - Hexadecimal condition code

**cc**    *Explanation*

- 01**    Invalid range for specified NPC type
- 03**    No RDC or CUS circuits and INCL keyword used
- 04**    No NPC's out of service and OOS keyword used
- 05**    Invalid use of CONV keyword
- 10**    NPC out of service or failed
- 11**    NPC not equipped
- 12**    Active CCN side not IS or failed or pested or hardware OOS
- 13**    UNIT not equipped, not in service, or failed
- 14**    CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
- 15**    FTMI not equipped, not in service, or failed
- 16**    FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
- 17**    TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
- 32**    Termination is under test
- 34**    Termination is under customer control (CUS)
- 35**    Termination is protected (RDC)
- 53**    TO side of two-way to be converted is not an FTU NPC
- 55**    Width of existing two way does not match conference width
- 57**    FROM is not a backbone leg
- 58**    Specified width does not match existing conference width
- 59**    NTR invalid since existing conference is not already NTR
- 5A**    LPD invalid since existing conference is not already LPD
- 5B**    TO is not a leg of this/any conference
- 5C**    Can't disconnect return leg unless entire conference disconnected
- 1A**    Required FLI not equipped, not in service, or failed
- 1B**    Required MXR not equipped, not in service, or failed
- 1C**    Reqd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS
- 1D**    Required MIU not equipped, not in service, or failed
- 95**    Range overlapping between FROM and TO or between two TOs
- D0**    FROM NPC is not provisioned as DGA
- D1**    TO NPC is not provisioned as DGA

**cc**    *Explanation*

**D3**    Corresponding NPC for FROM virtual channel is not provisioned  
**D4**    Corresponding NPC for TO virtual channel is not provisioned  
**D9**    Invalid FROM channel number range  
**DA**    Invalid TO channel number range  
**DC**    A loopback is active on the FROM termination  
**FF**    Termination is in process of being rolled  
**E0**    ETSI not equipped, not in service, or failed

**st**        **d**                    *Explanation*

**ROLL**    **{F|T|B}**    Circuit is involved in a roll

## **BDIS, FROM, TO, OOS, INCL, CONV**

### **BROADCAST DISCONNECTION**

#### **Explanation Of Command**

This message disconnects a single non-channelized tributary network processing circuit from a non-channelized digital signal broadcast circuit. It also disconnects a single tributary and converts a broadcast conference to a two-way, two-point circuit.

When the circuit is disconnected, the idle code (AIS) is transmitted.

#### **Command**

##### **Nonhierarchical**

[I.15231]

**BDIS:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,OOS][,INCL][,CONV]!**

##### **Hierarchical**

[I.15231]

**BDIS:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,OOS][,INCL][,CONV]!**

#### **Completion Message**

##### **Nonhierarchical**

[O.15231]

**M hh:mm:ss xy,ww n[vv] BDIS [s]abc,[t]ghi[ OOS][ CUS]\  
[ RDC][ BRDIS][ CONV] COMPL**

## Hierarchical

[O.15231]

M hh:mm:ss xy,ww n[vv] BDIS uvmnp,wxkqr[ OOS][ CUS][ RDC]\  
[ BRDIS][ CONV] COMPL

## Denial Message

## Nonhierarchical

[O.15231.01]

M hh:mm:ss xy,ww n[vv] BDIS [s]abc,[t]ghi[ [t]qrs] cc <st> \  
DNY

## Hierarchical

[O.15231.01]

M hh:mm:ss xy,ww n[vv] BDIS uvmnp,wxkqr[ uvqrs] cc <st> DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

[s]abc - The 3- or 4-digit non-hierarchical non-channelized source(backbone)  
NPC number  
[t]ghi - The 3- or 4-digit non-hierarchical non-channelized tributary NPC  
number

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1 | Unit<br>2 | Unit<br>3 | Unit<br>4 | Unit<br>5 | Unit<br>6 |
|-----------|-----------|-----------|-----------|-----------|-----------|
| NPC       | NPC       | NPC       | NPC       | NPC       | NPC       |
| 001-160   | 161-320   | 321-480   | 481-640   | 641-800   | 801-960   |



If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical non-channelized source (backbone) NPC number

**wxkqr** - Hierarchical non-channelized tributary NPC number

**uv, wx** - Unit number

**m, k** - Module number

**np, qr** - NPC number within the module

The values are listed below:

DE and DA type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

- OOS** - Out-of-service keyword may be specified if one or more of the backbone or tributary NPCs is out of service
- INCL** - Inclusive keyword required for Customer-controlled (CUS) or Red circuits
- CONV** - Convert circuit to a two-way, two-point circuit by disconnecting the indicated tributary; as long as more than two tributaries remain, or no return path exists, the option is denied.

If the indicated tributary is a full tributary, it can be disconnected only when there are no other tributaries.

**[t]qrs** - The 3- or 4-digit nonhierarchical NPC number causing denial

**uvqrs** - Hierarchical NPC number causing denial

**RDC** - Red circuit

**CUS** - Customer

Customer-controlled circuit

**BRDIS** - Broadcast conference completely disconnected

**st** - Status of denial

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                    |
|-----------|--------------|-----------------------------------------------------------------------|
| <b>01</b> | <b>INERR</b> | Invalid range for specified NPC type                                  |
| <b>03</b> | <b>INERR</b> | No RDC or CUS circuits and INCL keyword used                          |
| <b>04</b> | <b>INERR</b> | No NPC's out of service and OOS keyword used                          |
| <b>05</b> | <b>BCAST</b> | Invalid use of CONV keyword                                           |
| <b>10</b> | <b>MCOND</b> | NPC out of service or failed                                          |
| <b>11</b> | <b>MCOND</b> | NPC not equipped                                                      |
| <b>12</b> | <b>MCOND</b> | Active CCN side not IS or failed or pested or hardware OOS            |
| <b>13</b> | <b>MCOND</b> | UNIT not equipped, not in service, or failed                          |
| <b>14</b> | <b>MCOND</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS |
| <b>15</b> | <b>MCOND</b> | FTMI not equipped, not in service, or failed                          |
| <b>16</b> | <b>MCOND</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS   |
| <b>17</b> | <b>MCOND</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS |
| <b>30</b> | <b>MCOND</b> | Termination is already assigned                                       |
| <b>32</b> | <b>MCOND</b> | Termination is under test                                             |
| <b>33</b> | <b>INERR</b> | Termination is a test port                                            |
| <b>34</b> | <b>MCOND</b> | Termination is under customer control (CUS)                           |
| <b>35</b> | <b>MCOND</b> | Termination is protected (RDC)                                        |
| <b>51</b> | <b>BCAST</b> | CUS flag doesn't match that of conference                             |

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                        |
|-----------|--------------|---------------------------------------------------------------------------|
| <b>52</b> | <b>BCAST</b> | RDC flag doesn't match that of conference                                 |
| <b>57</b> | <b>BCAST</b> | FROM is not a backbone leg                                                |
| <b>58</b> | <b>INERR</b> | Specified width does not match existing conference width                  |
| <b>5B</b> | <b>BCAST</b> | TO is not a leg of this/any conference                                    |
| <b>5C</b> | <b>BCAST</b> | Can't disconnect return leg unless entire conference disconnected         |
| <b>62</b> | <b>INERR</b> | NPC type mismatch                                                         |
| <b>63</b> | <b>INERR</b> | NPC is a channelized NPC                                                  |
| <b>64</b> | <b>INERR</b> | NPC is a non-channelized NPC                                              |
| <b>1A</b> | <b>MCOND</b> | Required FLI not equipped, not in service, or failed                      |
| <b>1B</b> | <b>MCOND</b> | Required MXR not equipped, not in service, or failed                      |
| <b>1C</b> | <b>MCOND</b> | Reqd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS |
| <b>95</b> | <b>MCOND</b> | Range overlapping between FROM and TO or between two TOs                  |
| <b>DF</b> | <b>INERR</b> | Unmatched channel range                                                   |
| <b>70</b> | <b>MCOND</b> | NPC invalid type                                                          |
| <b>FF</b> | <b>ROLL</b>  | Termination is in process of being rolled                                 |
| <b>E0</b> | <b>MCOND</b> | ETSI not equipped, not in service, or failed                              |

## **BDIS, FROM, TOX, CONV, OOS, DCC, INCL**

### **BROADCAST DISCONNECTION**

#### **Explanation Of Command**

This command requests the disconnection of up to eight tributary legs from the source of a broadcast cross-connection circuit.

The **FROM** field designates the source termination. The optional range field **[-eee]** indicates the width of the conference backbone. The allowable width ranges from 001 to 024 channels and must be the same as the width of the existing conference backbone (if any).

The fields in the TO end designate the tributaries to be connected to the backbone. Although a conference may have any number of tributaries (limited only by the frame configuration), at most eight at a time may be disconnected using this command. More tributaries can be disconnected by subsequent broadcast disconnect commands.

#### **Command**

#### **Nonhierarchical**

[l.15211]

```
BDIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],\  
TOX ([t]ghijjj[, [u]klmnn . . .)][, CONV][, OOS][, DCC][, INCL]!
```

### **Hierarchical**

---

[I.15211]

BDIS: FRM xy, SEQ ww: FROM uvmnpddd[-eee], \  
TOX (wxkqrjjj[, edhfgnnn, . . .])[, CONV][, OOS][, DCC][, INCL]!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.15211]

M hh:mm:ss xy, ww n[vv] BDIS [s]abcddd[-eee] 3 LN MSG:  
TOX [t]ghijjj[, [u]klmnnn, . . .]  
[BRDIS][ CONV][ OOS][ CUS][ RDC][ DCC] COMPL

### **Hierarchical**

---

[O.15211]

M hh:mm:ss xy, ww n[vv] BDIS uvmnpddd[-eee] 3 LN MSG:  
TOX wxkqrjjj[, edhfgnnn, . . .]  
[BRDIS][ CONV][ OOS][ CUS][ RDC][ DCC] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.15211.01]

M hh:mm:ss xy, ww n[vv] BDIS [s]abcddd[-eee] 3 LN MSG:  
TOX [t]ghijjj[, [u]klmnnn, . . .]  
[[t]wxyz] COND cc BCAST DNY

[O.15211.02]

M hh:mm:ss xy, ww n[vv] BDIS [s]abcddd[-eee] 3 LN MSG:  
TOX [t]ghijjj[, [u]klmnnn, . . .]  
[[t]wxyz] COND cc DNY

## **Hierarchical**

[O.15211.01]

M hh:mm:ss xy,ww n[vv] BDIS uvmnpddd[-eee] 3 LN MSG:  
TOX wxkqrjjj[,edhfgnnn,. . .]  
[opjstzzz] COND cc BCAST DNY

[O.15211.02]

M hh:mm:ss xy,ww n[vv] BDIS uvmnpddd[-eee] 3 LN MSG:  
TOX wxkqrjjj[,edhfgnnn,. . .]  
[opjstzzz] COND cc DNY

## **Autonomous Message**

Not applicable.

## **Explanation Of Parameters**

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number designating the source termination

[t]ghi, [u]klm  
- The 3- or 4-digit nonhierarchical tributary NPC numbers

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |



|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number designating the source termination

**wxkqr** - Hierarchical FROM NPC number designating the source termination

**edhfg** - Hierarchical tributary NPC numbers

**uv, wx, ed**

- Unit number

**m, k, h** - Module number

**np, qr, fg**

- NPC number within the module

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM channel number

**eee** - FROM channel number denoting end of width

The optional range field [-eee] or [&&-eee] indicates the width of the conference backbone. Note that a range may be specified for the source only.

**jjj** - Channel number of tributary legs

**nnn** - Channel number of the last tributary leg of the range

Without the optional CONV keyword, ddd and jjj must be the lowest numbered channels in the range of channels that make up the broadcast circuit. If the range field [-eee] is used, the entire width of the conference tributaries must be indicated.

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

#### **FROM** - From

The FROM field designates the source termination.

The fields following the TOX keyword (or the subsequent channel numbers in MML) designate the tributaries that are connected to the backbone.

Although a conference may have any number of tributaries (limited only by frame configuration), at most eight at a time may be disconnected using this command. More tributaries can be disconnected by subsequent commands.

#### **CONV** - Convert

The CONV keyword is given to disconnect the specified one-way tributaries from the broadcast circuit and convert the circuit to a two-way, two-point circuit. For a command with this option to succeed, only the broadcast source and the full tributary leg must remain on the circuit following the disconnection of the specified one-way tributaries. That is, this option will be denied if the user attempts to disconnect the full tributary rather than a one-way tributary, or if any other one-way tributaries remain on the broadcast circuit following the disconnection of the one-way tributaries specified in the command.

**OOS** - Out-of-service

An OOS disconnection may be done by giving the optional OOS keyword. At least one end of the circuit must be out-of-service or the OOS disconnection will be denied.

**DCC** - Disconnect code

If the DCC keyword is specified, DACS II will insert the user-defined disconnect code and signaling into the disconnected channels. This disconnect code and signaling are specified by the trunk conditioning field used to connect the circuit. If the DCC option is not used, the disconnect code specified in the GRTH::NPC command is used.

**INCL** - Inclusive

To disconnect a circuit or range of circuits including one or more circuits marked as a red circuit or under customer control, use the INCL option. If this option is not used, the message will be denied if any circuits in the range are red circuits or customer controlled.

**[t]wxy** - The 3- or 4-digit nonhierarchical NPC number involved in the denial.  
(with the same valid value as [s]abc.)

**opjst** - Hierarchical NPC number involved in the denial

**zzz** - Channel number involved in the denial. Otherwise the same as ddd.

**BCAST** - Broadcast

**cc** - Hexadecimal condition code

**cc**    *Explanation*

- 01**    Invalid range for specified NPC type
- 03**    No RDC or CUS circuits and INCL keyword used
- 04**    No NPC's out of service and OOS keyword used
- 05**    Invalid use of CONV keyword
- 10**    NPC out of service or failed
- 11**    NPC not equipped
- 12**    Active CCN side not IS or failed or pested or hardware OOS
- 13**    UNIT not equipped, not in service, or failed
- 14**    CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
- 15**    FTMI not equipped, not in service, or failed
- 16**    FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
- 17**    TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
- 32**    Termination is under test
- 34**    Termination is under customer control (CUS)

**cc**    *Explanation*

- 35**    Termination is protected (RDC)
- 53**    TO side of two-way to be converted is not an FTU NPC
- 55**    Width of existing two way does not match conference width
- 57**    FROM is not a backbone leg
- 58**    Specified width does not match existing conference width
- 59**    NTR invalid since existing conference is not already NTR
- 5A**    LPD invalid since existing conference is not already LPD
- 5B**    TO is not a leg of this/any conference
- 5C**    Can't disconnect return leg unless entire conference disconnected
- 1A**    Required FLI not equipped, not in service, or failed
- 1B**    Required MXR not equipped, not in service, or failed
- 1C**    Req'd FMT not eq'd, not IS, or failed, or inact side FMT not eq'd, or not IS
- 1D**    Required MIU not equipped, not in service, or failed
- 95**    Range overlapping between FROM and TO or between two TOs
- D0**    FROM NPC is not provisioned as DGA
- D1**    TO NPC is not provisioned as DGA
- D3**    Corresponding NPC for FROM virtual channel is not provisioned
- D4**    Corresponding NPC for TO virtual channel is not provisioned
- D6**    Invalid FROM channel number
- D7**    Invalid TO channel number
- D9**    Invalid FROM channel number range
- DA**    Invalid TO channel number range
- DC**    A loopback is active on the FROM termination
- EC**    Invalid channel 000 cross-connection specified
- ED**    Invalid channel 031 cross-connection specified
- FF**    Termination is in process of being rolled
- E0**    ETSI not equipped, not in service, or failed

## **BDIS, FROM, TOX, OOS, INCL, CONV**

### **BROADCAST DISCONNECT**

#### **Explanation Of Command**

This message disconnects upto eight non-channelized tributaries from a non-channelized source network processing circuit (NPC). The NPCs can be in different units. This message also disconnects tributaries and can convert a broadcast conference to a two-way, two-point circuit. When the circuit is disconnected, the idle code (AIS) is transmitted.

#### **Command**

##### **Nonhierarchical**

[|.15221]

```
BDIS:FRM xy,SEQ ww:FROM [s]abc,\  
TOX ([t]ghi[, [u]jkl][, [v]mno][...])[, OOS][, INCL][, CONV]!
```

##### **Hierarchical**

[|.15221]

```
BDIS:FRM xy,SEQ ww:FROM uvmnp,\  
TOX (wxqqr[, edhfg][, opqrs][...])[, OOS][, INCL][, CONV]!
```

## **Completion Message**

---

### **Nonhierarchical**

---

[O.15221]

M hh:mm:ss xy,ww n[vv] BDIS [s]abc 3 LN MSG:  
TOX [t]ghi[, [u]jkl][, [v]mno][...]  
[OOS ][CUS ][RDC ][BRDIS ][CONV ]COMPL

### **Hierarchical**

---

[O.15221]

M hh:mm:ss xy,ww n[vv] BDIS uvmpn 3 LN MSG:  
TOX wxkqr[, edhfg][, opqrs][...]  
[OOS ][CUS ][RDC ][BRDIS ][CONV ]COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.15221.01]

M hh:mm:ss xy,ww n[vv] BDIS [s]abc 3 LN MSG:  
TOX [t]ghi[, [u]jkl][, [v]mno][...]  
[[t]qrs] cc <st> DNY

### **Hierarchical**

---

[O.15221.01]

M hh:mm:ss xy,ww n[vv] BDIS uvmpn 3 LN MSG:  
TOX wxkqr[, edhfg][, opqrs][...]  
[uvjkl] cc <st> DNY

## **Autonomous Message**

---

Not applicable.

### Explanation Of Parameters

- [s]abc** - The 3- or 4-digit non-hierarchical non-channelized Source(backbone) NPC number
- [t]ghi** - The 3- or 4-digit non-hierarchical non-channelized tributary NPC number
- [u]jkl** - Explained for [t]ghi
- [v]mno** - Explained for [t]ghi

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical number of non-channelized source NPC

**wxkqr** - Hierarchical NPC number of non-channelized tributary

**edhfg** - Hierarchical number of NPC

**opqrs** - Hierarchical number of tributary



**uv, wx, ed, op**

- Unit number

**m, x, h, q**

- Module number

**np, qr, fg, rs**

- NPC number within the module

The values are listed below:

DE and DA type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**OOS** - Out-of-service keyword may be specified if one or more of the backbone or tributary NPCs is out of service

**INCL** - Inclusive keyword required for customer-controlled or Red circuits

**CONV** - Convert circuit to a two-way, two-point circuit by disconnecting the indicated tributaries; as long as more than two tributaries remain, or if no return path exists, the option is denied.

If the broadcast circuit has one full tributary, it can be disconnected only when there are no other tributaries.

**[t]qrs** - The 3- or 4-digit nonhierarchical NPC number causing denial

**uvjkl** - Hierarchical NPC number causing denial

**BRDIS** - Broadcast conference completely disconnected

**st** - Status of denial

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                        |
|-----------|--------------|---------------------------------------------------------------------------|
| <b>01</b> | <b>RNGIE</b> | Invalid range for specified NPC type                                      |
| <b>03</b> | <b>INERR</b> | No RDC or CUS circuits and INCL keyword used                              |
| <b>04</b> | <b>INERR</b> | No NPC's out of service and OOS keyword used                              |
| <b>05</b> | <b>BCAST</b> | Invalid use of CONV keyword                                               |
| <b>10</b> | <b>MCOND</b> | NPC out of service or failed                                              |
| <b>11</b> | <b>MCOND</b> | NPC not equipped                                                          |
| <b>12</b> | <b>MCOND</b> | Active CCN side not IS or failed or pested or hardware OOS                |
| <b>13</b> | <b>MCOND</b> | UNIT not equipped, not in service, or failed                              |
| <b>14</b> | <b>MCOND</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS     |
| <b>15</b> | <b>MCOND</b> | FTMI not equipped, not in service, or failed                              |
| <b>16</b> | <b>MCOND</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS       |
| <b>17</b> | <b>MCOND</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS     |
| <b>32</b> | <b>MCOND</b> | Termination is under test                                                 |
| <b>33</b> | <b>MCOND</b> | Termination is a test port                                                |
| <b>34</b> | <b>MCOND</b> | Termination is under customer control (CUS)                               |
| <b>35</b> | <b>MCOND</b> | Termination is protected (RDC)                                            |
| <b>51</b> | <b>BCAST</b> | CUS flag doesn't match that of conference                                 |
| <b>52</b> | <b>BCAST</b> | RDC flag doesn't match that of conference                                 |
| <b>57</b> | <b>BCAST</b> | FROM is not a backbone leg                                                |
| <b>58</b> | <b>INERR</b> | Specified width does not match existing conference width                  |
| <b>5B</b> | <b>BCAST</b> | TO is not a leg of this/any conference                                    |
| <b>5C</b> | <b>BCAST</b> | Can't disconnect return leg unless entire conference disconnected         |
| <b>62</b> | <b>INERR</b> | NPC type mismatch                                                         |
| <b>63</b> | <b>INERR</b> | NPC is a channelized NPC                                                  |
| <b>64</b> | <b>INERR</b> | NPC is a non-channelized NPC                                              |
| <b>1A</b> | <b>MCOND</b> | Required FLI not equipped, not in service, or failed                      |
| <b>1B</b> | <b>MCOND</b> | Required MXR not equipped, not in service, or failed                      |
| <b>1C</b> | <b>MCOND</b> | Reqd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS |
| <b>95</b> | <b>MCOND</b> | Range overlapping between FROM and TO or between two TOs                  |
| <b>DF</b> | <b>INERR</b> | Unmatched channel range                                                   |
| <b>70</b> | <b>MCOND</b> | NPC invalid type                                                          |
| <b>FF</b> | <b>ROLL</b>  | Termination is in process of being rolled                                 |
| <b>E0</b> | <b>MCOND</b> | ETSI not equipped, not in service, or failed                              |

## **BOOT,FAILED,BAD,DEVICE**

### **BOOT FAILED**

#### **Explanation Of Command**

This autonomous output message reports that a system boot has failed while entering the RST::MC command (Message 34001).

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.65053]

**\*\*hh:mm:ss xy,ww    BOOT FAILED - BAD BOOT DEVICE**

#### **Explanation Of Parameters**

## **BOOT, FROM, PMEM, FAILED, ATTEMPTING, TO**

### **STARTUP**

#### **Explanation Of Command**

If the Primary memory Card (PMEM) had a corrupted generic load or the generic is absent from the PMEM, the bootstrap loader will display this message.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01242]

**BOOT FROM PMEM FAILED  
ATTEMPTING TO BOOT FROM SMEM**

### **Explanation Of Parameters**

---

**BOOT** - Boot.

**PMEM** - Primary memory card.

**SMEM** - Secondary memory card.

## **BOOT, FROM, PMEM, SMEM**

### **STARTUP**

#### **Explanation Of Command**

The main processor has successfully loaded the boot program from either the Primary Memory (PMEM) or the Secondary Memory (SMEM).

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01241]

**BOOT FROM {PMEM|SMEM}**

### **Explanation Of Parameters**

---

**BOOT** - Boot

**PMEM** - Primary memory.

**FROM** - From

**SMEM** - Secondary memory.

## **BX2,STF,ATP**

### **BUS EXTENDER STARTUP**

#### **Explanation Of Command**

This message indicates that the communications interface bus extender has initialized itself and has performed self-diagnostics. The results of these diagnostics are reported as some tests failed or all tests passed.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01271]

**BX2 {STF|ATP}**



### **Explanation Of Parameters**

---

**BX2** - Bus extender

**STF** - Some tests failed

**ATP** - All tests passed

For ATP no action is required.

---

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## **CFR — CTST**

---

This section documents the commands **CFR** through **CTST**.

## **CFR,FRAME**

---

### **CONFIGURE FRAME**

#### **Explanation Of Command**

---

This command is used to initialize or change the frame configuration. After this command is successfully completed, DACS II will autonomously update the location information for the packs in the frame. **WARNING:** A manual backup from Working to Primary memory must be invoked prior to entering Maintenance Condition, else the command may not complete. **WARNING:** A manual backup from RAM to Disk must be invoked prior to entering Maintenance Condition, else the command may not complete.

Entering this message will cause DACS II to present the user with self-explanatory menus. These menus allow the user to select the total number of bays and units to be equipped and to specify the bay and unit type for each of them. With the user specified information, DACS II will then determine the physical location of each circuit pack in the frame. The completion message will be output when the user exits from the menu mode.

This command can only be entered under the following conditions:

- It is entered from link 1
- The frame is in the maintenance condition
- The user is a superuser

#### **Command**

---

[I.35021]

**CFR:FRM xy,SEQ ww:FRAME!**

#### **Completion Message**

---

[O.35021]

**M hh:mm:ss xy,ww n[vv] CFR FRAME[ COND cc] COMPL**



### **Denial Message**

---

[O.35021.01]

**M hh:mm:ss xy,ww n[vv] CFR FRAME COND cc DNY**

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**FRAME** - Frame

**COND** - Condition

**cc** - Completion condition code (hexadecimal)

**cc** - Hexadecimal condition code

**cc** *Explanation*

**8D** DB PMEM error OP-CL-RD-WR-SK

**8F** Can't lock or unlock ram database

**96** Unit(s) OOS, and additional backup required

**98** Unable to verify Configuration file since MP DB not loaded

**92** Can't mount or unmount PMEM

**97** User quit the menu

**01** Backup required before executing this command

## **CFR,SYNC,FPLL**

### **CONFIGURE SYNCHRONIZER**

#### **Explanation Of Command**

This command requests the fast start of the phase-locked loop in a synchronizer.

#### **Command**

[I.35011]

**CFR:FRM xy,SEQ ww:SYNC a,FPLL!**

#### **Completion Message**

[O.35011]

**M hh:mm:ss xy,ww n[vv] CFR SYNC a FPLL COMPL**

#### **Denial Message**

[O.35011.01]

**M hh:mm:ss xy,ww n[vv] CFR SYNC a FPLL COND cc DNY**

#### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**SYNC** - Synchronizer

**a** - Synchronizer number (0 or 1)

**FPLL** - Fast start phase-locked loop

**cc** - Hexadecimal condition code

**cc** *Explanation*

**16** SYNC TB is not equipped

**17** SYNC is out of service

**BF** Sync mode is same

**C8** Sync pack denied command

## **CFR,SYNC,MASTER,SLAVED**

### **CONFIGURE SYNCHRONIZER**

#### **Explanation Of Command**

This command requests configuration of the synchronizer to extract timing from itself (stand-alone or **MASTER** mode) or from external sources (**SLAVED** mode).

The **CFR::SYNC** command modifies the Main Controller (MC) data base for the synchronizers, thus allowing appropriate combinations of time bases, timing extractors, and timing distributors to be equipped. This command is also used by the MC to instruct the Digital Phase Locked Loops (DPLLs) to implement the specified architecture. Condition codes for completion indicate architecture states, dependent on the current equipage. Condition codes for denial indicate that the requested architecture is not consistent with the current equipage.

#### **Command**

[I.35013]

**CFR:FRM xy,SEQ ww:SYNC,{MASTER|SLAVED}!**

#### **Completion Message**

[O.35013]

**M hh:mm:ss xy,ww n[vv] CFR SYNC {MASTER|SLAVED} COND 00 \**  
**COMPL**

#### **Denial Message**

[O.35013.01]

**M hh:mm:ss xy,ww n[vv] CFR SYNC {MASTER|SLAVED} COND cc DNY**

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**SYNC** - Synchronizer

**MASTER** - Master

The frame will use its own sources for timing.

**SLAVED** - Slaved

Timing will be extracted from external sources.

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                        |
|-----------|----------------------------------------|
| <b>16</b> | SYNC TB is not equipped                |
| <b>B6</b> | Sync architecture is same              |
| <b>B7</b> | Some TLIs are still equipped           |
| <b>B8</b> | CRO is still equipped                  |
| <b>B9</b> | Timing Extractor type TLIs are present |
| <b>BA</b> | TLI 3 or 4 still equipped              |
| <b>BC</b> | SSP with 0 priority present            |
| <b>BD</b> | SSP with non 0 priority present        |
| <b>C8</b> | Sync pack denied command               |

## **CFR,SYNC,STRATUM,STR2,STR3**

### **CONFIGURE SYNCHRONIZER STRATUM**

#### **Explanation Of Command**

This command requests the configuration of the synchronizer at a particular stratum level.

The command can be entered to configure the synchronizer at a lower stratum than the capability of the equipped time bases. The message can also be used to change the operating stratum level of the synchronizer to a higher level if the synchronizer is so equipped.

#### **Command**

[I.35012]

**CFR:FRM xy,SEQ ww:SYNC,STRATUM {STR2|STR3}!**

#### **Completion Message**

[O.35012]

**M hh:mm:ss xy,ww n[vv] CFR SYNC STRATUM {STR2|STR3} COMPL**

#### **Denial Message**

[O.35012.01]

**M hh:mm:ss xy,ww n[vv] CFR SYNC STRATUM {STR2|STR3} COND cc DNY**

#### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**SYNC** - Synchronizer

**STRATUM**

- Stratum

**STR2** - Stratum 2 Time Base

**STR3** - Stratum 3 Time Base

**COND** - Condition

**cc** - Hexadecimal condition code

**cc**    *Explanation*

**16**    SYNC TB is not equipped

**C0**    Sync stratum is same

**C1**    Stratum not allowed

**C8**    Sync pack denied command

## **CFR,XC,INCL**

### **CONFIGURE DIGROUP CIRCUITS**

#### **Explanation Of Command**

This command requests that all digroup circuits select data and clocks from the specified cross-connect network side.

If the frame is in the maintenance condition state then the user must be logged in as the system administrator (DAX) on link 1. In addition the INCL keyword must be specified in order for the command to be accepted. If these conditions are not met the command will be denied.

#### **Command**

[I.35001]

**CFR:FRM xy,SEQ ww:XC s[,INCL]!**

#### **Completion Message**

[O.35001]

**M hh:mm:ss xy,ww n[vv] CFR XC s[ INCL] COMPL**

#### **Denial Message**

[O.35001.01]

**M hh:mm:ss xy,ww n[vv] CFR XC s[ INCL] COND cc DNY**



## **Autonomous Message**

---

[O.35001]

**I** hh:mm:ss xy,ww n[vv] **CFR XC s[ TN abcd]** **COMPL**

## **Explanation Of Parameters**

---

**XC** - Cross-connect

**s** - Cross-connect side (0 or 1)

**INCL** - Inclusive

**a, b** - The CCN side representations used for the autonomous report, with the same definition as s.

a and b each represents a CCN side. If a is 1, b must be 0, and vice versa.

**TN** - Transaction

**abcd** - transaction number (hexadecimal)

The transaction number is shown only in the autonomous output message.

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

**1C** CCN side s is out of service

**98** Unable to verify Configuration file since MP DB not loaded

**F5** INCL keyword needed to perform this command

**64** Frame is not in MCOND

**65** Link being used is not Link 1

**66** User login-id is not DAX

## **CHG,DS3UNPROTALM,ON,OFF**

### **CHANGE UNPROTECTED ALARM SETTING**

#### **Explanation Of Command**

This message activates or deactivates the generation of minor alarms when DS3 service is unprotected as a result of manual commands. DS3 service can be unprotected due to manual commands when the user manually switches service from a MMFG-S to the protection MMFG, when the user manually removes one of the FLIs, when s/he manually removes the protection MMFG, or when s/he manually removes the Unit Controller of a DS3 unit.

Even though a minor alarm is generated per unprotected DS3U, this message activates/deactivates the alarm generation for **all** DS3Us in the frame. If the frame is not equipped with any DS3U, the command will indicate that fact.

Deactivating the alarm generation will idle all active DS3 unprotected alarms previously generated.

#### **Command**

[I.38611]

**CHG:[FRM xy,SEQ ww]:DS3UNPROTALM {ON|OFF}!**

#### **Completion Message**

**Note:** When the frame is not equipped with DS3, the following output appears:

[O.38611]

**M hh:mm:ss xy,ww n[vv] CHG DS3UNPROTALM UNEQPD COMPL**

**Note:** When the frame is equipped with DS3, the following output appears:

[O.38612]

**M hh:mm:ss xy,ww n[vv] CHG DS3UNPROTALM STATUS <a> COMPL**

### **Denial Message**

---

Not applicable.

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

#### **DS3UNPROTALM**

- DS3 Unprotected Alarm

**UNEQPD** - Unequipped with DS3

**STATUS** - Status

<a> - status of activation/deactivation

ON - Activated. Alarm will be generated when DS3 is unprotected.

OFF - Deactivated. Alarm will not be generated.

**COND** - Condition

## **CHG,ECLOC,TYPE,MJU,SRM**

### **CHANGE SUBRATE ERROR CORRECTION LOCATION**

#### **Explanation Of Command**

**For Subrate**, this command changes the error correction location to either the multipoint junction unit (MJU) or Subrate multiplexer unit (SRM) type of a Subrate pack. As a result of this command, all new error correction functions that require Subrate circuit pack resources will be allocated to the pack type specified for subsequent Subrate circuit provisioning commands (**SECH**, **SCON**, **SCNT**).

#### **Command**

[I.38261]

**CHG:FRM xy,SEQ ww:ECLOC,TYPE {MJU|SRM}!**

#### **Completion Message**

[O.38261]

**M hh:mm:ss xy,ww n[vv] CHG ECLOC TYPE {MJU|SRM} COMPL**

#### **Denial Message**

[O.38261.01]

**M hh:mm:ss xy,ww n[vv] CHG ECLOC TYPE {MJU|SRM} COND cc DNY**

#### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**ECLOC** - Subrate error correction location

**MJU** - Multipoint junction unit

**SRM** - Subrate multiplexer unit

As a result of this command, all new error correction functions that require Subrate circuit pack resources will be allocated to the pack type specified for subsequent Subrate circuit provisioning commands (SECH, SCON, SCNT). Such error correction resources are allocated for channels requiring parity channel error correction and for circuits with subrate error correction that do not connect to a subrate multiplexer or an MJU. This command does not result in reallocation of any existing error correction resources to the new circuit pack type.

**cc** - Hexadecimal condition code

**cc** *Explanation*

**9F** current error corrector pack type specified in command

## **CHG, FROM, TO, NOT, TLA, TLR, F, T, B, A, INCL**

### **CHANGE CIRCUIT PARAMETERS**

#### **Explanation Of Command**

This message changes the termination state of a cross-connected non-channelized network processing circuit. This command can affect either a two-way, a one-way or a broadcast non-channelized digital signal cross-connection. This command has the ability to change the termination states of all of the legs of a broadcast circuit. However, an option is provided to exclude one of the legs from being changed. The idle code for non-channelized digital signal cross-connections is the alarm indication signal which is transmitted over a terminated connection.

#### **Command**

##### **Nonhierarchical**

[I.17011]

```
CHG:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,NOT [u]rst],\  
{TLA|TLR} {F|T|B|A}{[,INCL]}
```

##### **Hierarchical**

[I.17011]

```
CHG:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,NOT edhfg],\  
{TLA|TLR} {F|T|B|A}{[,INCL]}
```

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.17011]

M hh:mm:ss xy,ww n[vv] CHG [s]abc,[t]ghi[ RDC]\  
[ CUS][ NOT [u]rst] {TLA|TLR} {F|T|B|A} COMPL

#### **Hierarchical**

---

[O.17011]

M hh:mm:ss xy,ww n[vv] CHG uvmnp,wxkqr[ RDC]\  
[ CUS][ NOT edhfg] {TLA|TLR} {F|T|B|A} COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.17011.01]

M hh:mm:ss xy,ww n[vv] CHG [s]abc,[t]ghi cc <st> DNY

[O.17011.02]

M hh:mm:ss xy,ww n[vv] CHG [s]abc,[t]ghi <d> <st> DNY

#### **Hierarchical**

---

[O.17011.01]

M hh:mm:ss xy,ww n[vv] CHG uvmnp,wxkqr cc <st> DNY

[O.17011.02]

M hh:mm:ss xy,ww n[vv] CHG uvmnp,wxkqr <d> <st> DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**FROM** - From termination  
**TO** - To termination

**[s]abc** - The 3- or 4-digit nonhierarchical non-channelized  
FROM NPC number  
**[t]ghi** - The 3- or 4-digit nonhierarchical non-channelized  
TO NPC number  
**[u]rst** - The 3- or 4-digit nonhierarchical non-channelized  
NPC number that is not affected by this command.

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |



If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

- uvmnp** - Hierarchical number of non-channelized FROM NPC
- wxkqr** - Hierarchical number of non-channelized TO NPC
- edhfg** - Hierarchical number of a leg of a non-channelized digital signal broadcast circuit that is not affected by this command.

**uv, wk, ed**

- Unit number

**m, x, h**

- Module number

**np, qr, fg**

- NPC number within the module

The values are listed below:

DE and DA type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**INCL** - Inclusive

Inclusive keyword, required if one or more circuits are marked  
Customer-controlled (CUS) or Red (RDC)

**TLA** - Terminate and leave activate

**TLR** - Terminate and leave release

The direction in which TLA or TLR is to be applied is specified by  
the use of F, T, B, A, and NOT as defined below:

**F** - Towards the FROM NPC

**T** - Towards the TO NPC

**B** - In both directions

**A** - All directions of a broadcast circuit

**NOT** - In conjunction with the A options, all directions of a broadcast  
circuit except the one specified

**RDC** - Red circuit

NPC is a red circuit

**CUS** - Customer

NPC is a Customer-controlled Circuit

**d** - direction

|   |             |
|---|-------------|
| d | Explanation |
| F | From        |
| T | To          |
| B | Both        |
| A | All         |

**st** - Status of denial

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                        |
|-----------|--------------|---------------------------------------------------------------------------|
| <b>15</b> | <b>MCOND</b> | NPC is unequipped                                                         |
| <b>01</b> | <b>INERR</b> | Invalid range for specified NPC type                                      |
| <b>03</b> | <b>MCOND</b> | No RDC or CUS circuits and INCL keyword used                              |
| <b>10</b> | <b>MCOND</b> | NPC out of service or failed                                              |
| <b>13</b> | <b>MCOND</b> | UNIT not equipped, not in service, or failed                              |
| <b>14</b> | <b>MCOND</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS     |
| <b>15</b> | <b>MCOND</b> | FTMI not equipped, not in service, or failed                              |
| <b>16</b> | <b>MCOND</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS       |
| <b>17</b> | <b>MCOND</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS     |
| <b>32</b> | <b>MCOND</b> | Termination is under test                                                 |
| <b>34</b> | <b>MCOND</b> | Termination is under customer control (CUS)                               |
| <b>35</b> | <b>MCOND</b> | Termination is protected (RDC)                                            |
| <b>57</b> | <b>BCAST</b> | FROM is not a backbone leg                                                |
| <b>5B</b> | <b>BCAST</b> | TO is not a leg of this/any conference                                    |
| <b>5D</b> | <b>BCAST</b> | TO is the backbone leg of a conference                                    |
| <b>5F</b> | <b>BCAST</b> | Conference is NTR: has no switchable return leg                           |
| <b>90</b> | <b>CHGIE</b> | Invalid change parameter combinations                                     |
| <b>C5</b> | <b>BCAST</b> | Option NOT leg can not appear with F, T, or B                             |
| <b>C7</b> | <b>BCAST</b> | Option NOT leg is not in conference                                       |
| <b>1A</b> | <b>MCOND</b> | Required FLI not equipped, not in service, or failed                      |
| <b>1B</b> | <b>MCOND</b> | Required MXR not equipped, not in service, or failed                      |
| <b>1C</b> | <b>MCOND</b> | Reqd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS |
| <b>1D</b> | <b>MCOND</b> | Required MIU not equipped, not in service, or failed                      |
| <b>FF</b> | <b>ROLL</b>  | Termination is in process of being rolled                                 |

| st      | d         | Explanation                         |
|---------|-----------|-------------------------------------|
| CUS     | {F T B A} | Customer-controlled Circuit         |
| FAIL    | {F T B A} | Failed                              |
| NOMTH   | {F T B A} | No match of NPCs                    |
| OOS     | {F T B A} | Out-of-service                      |
| RDC     | {F T B A} | Red Circuit                         |
| ROLL    | {F T B}   | Circuit is involved in a roll       |
| UNPASGN | {F T B A} | Unassigned or Not Properly Assigned |
| UEQD    | {F T B A} | Unequipped                          |
| UTST    | {F T B A} | Under Test                          |

## **CHG, FROM, TO, NOT, TLA, TLR, F, T, B, L, G, A**

### **CHANGE CROSS-CONNECT TERMINATION STATUS**

#### **Explanation Of Command**

This command is used to request a change in the termination status of the specified cross-connected circuit or range of circuits which were established by a two-point or multipoint cross-connect command.

If successful, the requested change is echoed ([NOT [u]rst-vvv]{TLA|TLR}{F|T|B|L|G|A}), followed by the new termination state (**NEW STATE**) of the circuit. If the range option was given, the new states of the circuits in the range may differ, noted by the **RNG** keyword.

#### **Command**

##### **Nonhierarchical**

[I.17001]

```
CHG:[FRM xy,SEQ ww]:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\  
[,NOT [u]rstvvv},{TLA|TLR}{F|T|B|L|G|A}[,INCL]!
```

##### **Hierarchical**

[I.17001]

```
CHG:[FRM xy,SEQ ww]:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\  
[,NOT edhfgvvv},{TLA|TLR}{F|T|B|L|G|A}[,INCL]!
```

## **Completion Message**

---

### **Nonhierarchical**

---

[O.17001]

M hh:mm:ss xy,ww n[vv] CHG [s]abcddd[-eee],[t]ghijjj[-kkk] 2 LN MSG:  
[NOT [u]rstvvv ] {TLA|TLR} {F|T|B|L|G|A}\  
[ NEW STATE {TLA s|RNG}][ RDC][ CUS] COMPL

### **Hierarchical**

---

[O.17001]

M hh:mm:ss xy,ww n[vv] CHG uvmnpddd[-eee],wxkqrjjj[-kkk] 2 LN MSG:  
[NOT edhfgvvv ] {TLA|TLR} {F|T|B|L|G|A}\  
[ NEW STATE {TLA s|RNG}][ RDC][ CUS] COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.17001.01]

M hh:mm:ss xy,ww n[vv] CHG [s]abcddd[-eee],[t]ghijjj[-kkk]\  
[ mmm,nnn] cc <st> DNY

[O.17001.02]

M hh:mm:ss xy,ww n[vv] CHG [s]abcddd[-eee],[t]ghijjj[-kkk]\  
[ mmm,nnn] <d> <st> DNY

[O.17001.03]

M hh:mm:ss xy,ww n[vv] CHG [s]abcddd[-eee],[t]ghijjj[-kkk] 2 LN MSG:  
{TLA|TLR} {F|T|B} COND cc DNY

### **Hierarchical**

---

[O.17001.01]

M hh:mm:ss xy,ww n[vv] CHG uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ mmm,nnn] cc <st> DNY

[O.17001.02]

**M** hh:mm:ss xy,ww n[vv] **CHG** uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ mmm,nnn] <d> <st> **DNY**

[O.17001.03]

**M** hh:mm:ss xy,ww n[vv] **CHG** uvmnpddd[-eee],wxkqrjjj[-kkk] 2 **LN MSG:**  
{TLA|TLR} {F|T|B} **COND** cc **DNY**

### Autonomous Message

Not applicable.

### Explanation Of Parameters

**FROM** - From

**TO** - To

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number

**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

**[u]rst** - The 3- or 4-digit nonhierarchical NPC number not affected by this message

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |



|                  |                  |                  |                  |
|------------------|------------------|------------------|------------------|
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

|                |                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|----------------|
| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-002</b> | <b>161-162</b> | <b>321-322</b> | <b>481-482</b> | <b>641-642</b> | <b>801-802</b> |
| <b>021-022</b> | <b>181-182</b> | <b>341-342</b> | <b>501-502</b> | <b>661-662</b> | <b>821-822</b> |
| <b>041-042</b> | <b>201-202</b> | <b>361-362</b> | <b>521-522</b> | <b>681-682</b> | <b>841-842</b> |
| <b>061-062</b> | <b>221-222</b> | <b>381-382</b> | <b>541-542</b> | <b>701-702</b> | <b>861-862</b> |
| <b>081-082</b> | <b>241-242</b> | <b>401-402</b> | <b>561-562</b> | <b>721-722</b> | <b>881-882</b> |
| <b>101-102</b> | <b>261-262</b> | <b>421-422</b> | <b>581-582</b> | <b>741-742</b> | <b>901-902</b> |
| <b>121-122</b> | <b>281-282</b> | <b>441-442</b> | <b>601-602</b> | <b>761-762</b> | <b>921-922</b> |
| <b>141-142</b> | <b>301-302</b> | <b>461-462</b> | <b>621-622</b> | <b>781-782</b> | <b>941-942</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

|                  |                  |                  |                  |
|------------------|------------------|------------------|------------------|
| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0002</b> | <b>0161-0162</b> | <b>0321-0322</b> | <b>0481-0482</b> |
| <b>0021-0022</b> | <b>0181-0182</b> | <b>0341-0342</b> | <b>0501-0502</b> |
| <b>0041-0042</b> | <b>0201-0202</b> | <b>0361-0362</b> | <b>0521-0522</b> |
| <b>0061-0062</b> | <b>0221-0222</b> | <b>0381-0382</b> | <b>0541-0542</b> |
| <b>0081-0082</b> | <b>0241-0242</b> | <b>0401-0402</b> | <b>0561-0562</b> |
| <b>0101-0102</b> | <b>0261-0262</b> | <b>0421-0422</b> | <b>0581-0582</b> |
| <b>0121-0122</b> | <b>0281-0282</b> | <b>0441-0442</b> | <b>0601-0602</b> |
| <b>0141-0142</b> | <b>0301-0302</b> | <b>0461-0462</b> | <b>0621-0622</b> |

| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0642</b> | <b>0801-0802</b> | <b>0961-0962</b> | <b>1121-1122</b> |
| <b>0661-0662</b> | <b>0821-0822</b> | <b>0981-0982</b> | <b>1141-1142</b> |
| <b>0681-0682</b> | <b>0841-0842</b> | <b>1001-1002</b> | <b>1161-1161</b> |
| <b>0701-0702</b> | <b>0861-0862</b> | <b>1021-1022</b> | <b>1181-1182</b> |
| <b>0721-0722</b> | <b>0881-0882</b> | <b>1041-1042</b> | <b>1201-1202</b> |
| <b>0741-0742</b> | <b>0901-0902</b> | <b>1061-1062</b> | <b>1221-1222</b> |
| <b>0761-0762</b> | <b>0921-0922</b> | <b>1081-1082</b> | <b>1241-1242</b> |
| <b>0781-0782</b> | <b>0941-0942</b> | <b>1101-1102</b> | <b>1261-1262</b> |
| <br>Unit<br>9    | <br>Unit<br>10   | <br>Unit<br>11   | <br>Unit<br>12   |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1282</b> | <b>1441-1442</b> | <b>1601-1602</b> | <b>1761-1762</b> |
| <b>1301-1302</b> | <b>1461-1462</b> | <b>1621-1622</b> | <b>1781-1782</b> |
| <b>1321-1322</b> | <b>1481-1482</b> | <b>1641-1642</b> | <b>1801-1802</b> |
| <b>1341-1342</b> | <b>1501-1502</b> | <b>1661-1662</b> | <b>1821-1822</b> |
| <b>1361-1362</b> | <b>1521-1522</b> | <b>1681-1682</b> | <b>1841-1842</b> |
| <b>1381-1382</b> | <b>1541-1542</b> | <b>1701-1702</b> | <b>1861-1862</b> |
| <b>1401-1402</b> | <b>1561-1562</b> | <b>1721-1722</b> | <b>1881-1882</b> |
| <b>1421-1422</b> | <b>1581-1582</b> | <b>1741-1742</b> | <b>1901-1902</b> |
| <br>Unit<br>13   | <br>Unit<br>14   | <br>Unit<br>15   | <br>Unit<br>16   |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-1922</b> | <b>2081-2082</b> | <b>2241-2242</b> | <b>2401-2402</b> |
| <b>1941-1942</b> | <b>2101-2102</b> | <b>2261-2262</b> | <b>2421-2422</b> |
| <b>1961-1962</b> | <b>2121-2122</b> | <b>2281-2282</b> | <b>2441-2442</b> |
| <b>1981-1982</b> | <b>2141-2142</b> | <b>2301-2302</b> | <b>2461-2462</b> |
| <b>2001-2002</b> | <b>2161-2162</b> | <b>2321-2322</b> | <b>2481-2482</b> |
| <b>2021-2022</b> | <b>2181-2182</b> | <b>2341-2342</b> | <b>2501-2502</b> |
| <b>2041-2042</b> | <b>2201-2202</b> | <b>2361-2362</b> | <b>2521-2522</b> |
| <b>2061-2062</b> | <b>2221-2222</b> | <b>2381-2382</b> | <b>2541-2542</b> |

DACS II Non-CEF frames support two virtual NPCs using the three digit NPC numbering scheme. The valid values for Non-CEF frames are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**961-962**

DACS II CEF frames support six virtual NPCs using either a three digit or four digit NPC numbering scheme. If NPC numbers are expressed in three digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**961-966**

If NPC numbers are expressed in four digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**9961-9966**

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**edfhg** - Hierarchical NPC number not affected by this message

**uv, wx, ed**

- Unit number

**m, k, f**

- Module number

**np, qr, hg**

- NPC number within the module

The valid values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

MB type NPC numbers listed by unit, module, and NPC Number

Unit Type DP (DSPU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-8</b> | <b>01-02</b> |

VI NPC numbers listed by unit, module, and NPC Number  
Unit Type VI (Virtual)

| Unit      | Module   | NPC                                   |
|-----------|----------|---------------------------------------|
| <b>99</b> | <b>1</b> | <b>01-02 (DACS II Non-CEF frames)</b> |
| <b>99</b> | <b>1</b> | <b>01-06 (DACS II CEF frames)</b>     |

**ddd** - FROM channel number  
**jjj** - TO channel number  
**eee** - FROM channel number denoting the end of the range  
**kkk** - TO channel number denoting the end of range  
**vvv** - Channel number not affected by this command.

The valid channel numbers are:

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

Conference numbers

|         |               |
|---------|---------------|
| 001-085 | (MB NPC)      |
| 001-500 | (Virtual NPC) |

**TLA** - Terminate and leave activate

**s** - Direction of transmission to be terminated

If the cross-connection is between a facility terminating unit (FTU) and a virtual NPC (VI type NPC), once terminated, the FTU NPC will send out its provisioning insertion word (PIW) as the idle code.

**TLR** - Terminate and leave release

**s** *Explanation*

**A** Towards the facilities and the bridge (multipoint only)

**B** Towards both terminations

**F** Towards the FROM termination

**G** Towards the bridge (multipoint connection only)

**L** Towards the facilities (multipoint connection only)

**T** Towards the TO termination

**INCL** - Inclusive

Use this keyword, to change the termination status on a channel or range of channels including one or more channels marked as a red. The command will otherwise be denied if one or more of the cross-connected circuits in the range are marked as red.

**NOT** - Not

The LEG is not affected by this command

**mmm, nnn**

- Channel number involved in the denial.

Otherwise, the same as **ddd**.

**RNG** - Range

**RDC** - Red circuit

The change in termination status was performed on a red circuit. If the command specified a range of circuits, then at least one of the circuits involved was a red circuit. This keyword will appear only if the **INCL** keyword was specified in the command.

**CUS** - Customer

The change in termination status was performed on a customer controlled circuit. If the command specified a range of circuits, then at least one of the circuits involved was a customer controlled circuit.

**d** - Direction

**d** *Direction*

**F** From

**T** To

**B** Both

**st** - Status

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b>      | <i>Explanation</i>                                                      |
|-----------|----------------|-------------------------------------------------------------------------|
| <b>06</b> | <b>INERR</b>   | Invalid range for specified FROM NPC type                               |
| <b>07</b> | <b>INERR</b>   | Invalid range for specified TO NPC type                                 |
| <b>12</b> | <b>MCOND</b>   | Active CCN side not IS or failed or pested or hardware OOS              |
| <b>13</b> | <b>MCOND</b>   | UNIT not equipped, not in service, or failed                            |
| <b>14</b> | <b>MCOND</b>   | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS   |
| <b>15</b> | <b>MCOND</b>   | FTMI not equipped, not in service, or failed                            |
| <b>16</b> | <b>MCOND</b>   | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS     |
| <b>17</b> | <b>MCOND</b>   | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS   |
| <b>18</b> | <b>MCOND</b>   | DSPI not equipped, not in service, or failed                            |
| <b>72</b> | <b>CONFERR</b> | The NPC of VC BBL leg doesn't match that in the input command           |
| <b>73</b> | <b>CONFERR</b> | The first channel of VC BBL leg doesn't match that in the input command |
| <b>75</b> | <b>CONFERR</b> | The input BRD leg is not in VC                                          |
| <b>76</b> | <b>CONFERR</b> | The first channel of VC BRD leg doesn't match that in the input command |
| <b>90</b> | <b>CHGIE</b>   | Invalid change parameter combinations                                   |
| <b>A1</b> | <b>INERR</b>   | Illegal BBL BBL combination                                             |
| <b>A2</b> | <b>INERR</b>   | Illegal BRD BRD combination                                             |
| <b>A3</b> | <b>INERR</b>   | Illegal SYM BRD combination                                             |
| <b>A4</b> | <b>INERR</b>   | Illegal BRD SYM combination                                             |
| <b>A5</b> | <b>INERR</b>   | Illegal BBL SYM combination                                             |
| <b>A6</b> | <b>INERR</b>   | Illegal SYM BBL combination                                             |
| <b>B7</b> | <b>INERR</b>   | Cannot perform DMB CHG on input direction F                             |
| <b>B8</b> | <b>INERR</b>   | Cannot perform DMB CHG on input direction T                             |
| <b>B9</b> | <b>INERR</b>   | Cannot perform DMB CHG on input direction B                             |
| <b>C0</b> | <b>INERR</b>   | Cannot perform DMB CHG on input direction L                             |
| <b>C1</b> | <b>INERR</b>   | Cannot perform DMB CHG on input direction G                             |
| <b>C2</b> | <b>INERR</b>   | Cannot perform DMB CHG on input direction A                             |
| <b>C3</b> | <b>CHGIE</b>   | Can't perform DMB CHG because NTR flag set on FROM side                 |
| <b>C4</b> | <b>CHGIE</b>   | Can't perform DMB CHG because NTR flag set on TO side                   |
| <b>C5</b> | <b>INERR</b>   | Option NOT leg can not appear with F, T, or B                           |

| cc | st    | Explanation                                                                  |
|----|-------|------------------------------------------------------------------------------|
| C6 | INERR | Option NOT leg is not a FTU leg                                              |
| C7 | INERR | Option NOT leg is not in conference                                          |
| 1A | MCOND | Required FLI not equipped, not in service, or failed                         |
| 1B | MCOND | Required MXR not equipped, not in service, or failed                         |
| 1C | MCOND | Reqd FMT not eqd, not IS, or failed, or inactive side FMT not eqd, or not IS |
| 1D | MCOND | Required MIU not equipped, not in service, or failed                         |
| D0 | SCERR | FROM NPC is not provisioned as DGA                                           |
| D1 | SCERR | TO NPC is not provisioned as DGA                                             |
| D3 | SCERR | Corresponding NPC for FROM virtual channel is not provisioned                |
| D4 | SCERR | Corresponding NPC for TO virtual channel is not provisioned                  |
| D6 | INERR | Invalid FROM channel number                                                  |
| D7 | INERR | Invalid TO channel number                                                    |
| D9 | INERR | Invalid FROM channel number range                                            |
| DA | INERR | Invalid TO channel number range                                              |
| DC | INERR | A loopback is active on the FROM termination                                 |
| DD | INERR | A loopback is active on the TO termination                                   |
| DF | INERR | Unmatched channel range                                                      |
| E0 | SCERR | Unmatched channel range involving SLC Mode III termination                   |
| E4 | SCERR | RT-DCLU cross-connect with different ids                                     |
| E5 | SCERR | RT-DCLU cross-connect with different channel number                          |
| E6 | SCERR | Cross-connect a non Mode I channel to DCLU                                   |
| E7 | SCERR | Cross-connect a non SLC channel to DCLU                                      |
| EC | INERR | Invalid channel 000 cross-connection specified                               |
| ED | INERR | Invalid channel 031 cross-connection specified                               |
| 70 | MCOND | NPC invalid type                                                             |
| FF | ROLL  | Termination is in process of being rolled                                    |
| E0 | MCOND | ETSI not equipped, not in service, or failed                                 |

| st      | d       | Explanation                         |
|---------|---------|-------------------------------------|
| CUS     | {F T B} | Customer-controlled Circuit         |
| FAIL    | {F T B} | Failed                              |
| NOMTH   | {F T B} | No Match                            |
| OOS     | {F T B} | Out-of-service                      |
| RDC     | {F T B} | Red Circuit                         |
| ROLL    | {F T B} | Circuit is involved in a roll       |
| TP      | {F T B} | NPC is used for test access         |
| UNPASGN | {F T B} | Unassigned or Not Properly Assigned |
| UEQD    | {F T B} | Unequipped                          |
| UTST    | {F T B} | Under Test                          |

## **CHG, FROM, TO, TLP, NG, ES, INCL**

### **CHANGE CIRCUIT PARAMETERS**

#### **Explanation Of Command**

This message requests DACS II to change the parameters of a multipoint circuit leg. Termination [s]abcddd must be either a termination on an FTU (facility terminating unit), DS3U or DSPU (digital signal processing unit) NPC. Termination [t]ghijjj must be a termination on a DSPU NPC.

#### **Command**

#### **Nonhierarchical**

[I.17002]

**CHG:FRM xy,SEQ ww:FROM [s]abcddd,TO [t]ghijjj[,TLP(snn,smm)]\  
[,NG nn][,ES ee][,INCL]!**

#### **Hierarchical**

[I.17002]

**CHG:FRM xy,SEQ ww:FROM uvmnpddd,TO wxkqrjjj\  
[,TLP(snn,smm)][,NG nn][,ES ee][,INCL]!**



### **Completion Message**

---

#### **Nonhierarchical**

---

[O.17002]

M hh:mm:ss xy,ww n[vv] CHG [s]abcddd,[t]ghijjj 2 LN MSG:  
[TLP(snn,smm)][ NG nn][ ES ee]\  
NEW STATE spp,sqq NG ff ES hh[ RDC][ CUS] COMPL

#### **Hierarchical**

---

[O.17002]

M hh:mm:ss xy,ww n[vv] CHG uvmnpddd,wxkqrjjj 2 LN MSG:  
[TLP(snn,smm)][ NG nn][ ES ee]\  
NEW STATE spp,sqq NG ff ES hh[ RDC][ CUS] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.17002.01]

M hh:mm:ss xy,ww n[vv] CHG [s]abcddd,[t]ghijjj 2 LN MSG:  
[TLP(snn,smm)][ NG nn][ ES ee] COND cc DNY

#### **Hierarchical**

---

[O.17002.01]

M hh:mm:ss xy,ww n[vv] CHG uvmnpddd,wxkqrjjj 2 LN MSG:  
[TLP(snn,smm)][ NG nn][ ES ee] COND cc DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**FROM** - From  
**TO** - To

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number  
**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-002</b> | <b>161-162</b> | <b>321-322</b> | <b>481-482</b> | <b>641-642</b> | <b>801-802</b> |
| <b>021-022</b> | <b>181-182</b> | <b>341-342</b> | <b>501-502</b> | <b>661-662</b> | <b>821-822</b> |
| <b>041-042</b> | <b>201-202</b> | <b>361-362</b> | <b>521-522</b> | <b>681-682</b> | <b>841-842</b> |
| <b>061-062</b> | <b>221-222</b> | <b>381-382</b> | <b>541-542</b> | <b>701-702</b> | <b>861-862</b> |
| <b>081-082</b> | <b>241-242</b> | <b>401-402</b> | <b>561-562</b> | <b>721-722</b> | <b>881-882</b> |
| <b>101-102</b> | <b>261-262</b> | <b>421-422</b> | <b>581-582</b> | <b>741-742</b> | <b>901-902</b> |
| <b>121-122</b> | <b>281-282</b> | <b>441-442</b> | <b>601-602</b> | <b>761-762</b> | <b>921-922</b> |
| <b>141-142</b> | <b>301-302</b> | <b>461-462</b> | <b>621-622</b> | <b>781-782</b> | <b>941-942</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0002</b> | <b>0161-0162</b> | <b>0321-0322</b> | <b>0481-0482</b> |
| <b>0021-0022</b> | <b>0181-0182</b> | <b>0341-0342</b> | <b>0501-0502</b> |
| <b>0041-0042</b> | <b>0201-0202</b> | <b>0361-0362</b> | <b>0521-0522</b> |
| <b>0061-0062</b> | <b>0221-0222</b> | <b>0381-0382</b> | <b>0541-0542</b> |
| <b>0081-0082</b> | <b>0241-0242</b> | <b>0401-0402</b> | <b>0561-0562</b> |
| <b>0101-0102</b> | <b>0261-0262</b> | <b>0421-0422</b> | <b>0581-0582</b> |
| <b>0121-0122</b> | <b>0281-0282</b> | <b>0441-0442</b> | <b>0601-0602</b> |
| <b>0141-0142</b> | <b>0301-0302</b> | <b>0461-0462</b> | <b>0621-0622</b> |

| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0642</b> | <b>0801-0802</b> | <b>0961-0962</b> | <b>1121-1122</b> |
| <b>0661-0662</b> | <b>0821-0822</b> | <b>0981-0982</b> | <b>1141-1142</b> |
| <b>0681-0682</b> | <b>0841-0842</b> | <b>1001-1002</b> | <b>1161-1161</b> |
| <b>0701-0702</b> | <b>0861-0862</b> | <b>1021-1022</b> | <b>1181-1182</b> |
| <b>0721-0722</b> | <b>0881-0882</b> | <b>1041-1042</b> | <b>1201-1202</b> |
| <b>0741-0742</b> | <b>0901-0902</b> | <b>1061-1062</b> | <b>1221-1222</b> |
| <b>0761-0762</b> | <b>0921-0922</b> | <b>1081-1082</b> | <b>1241-1242</b> |
| <b>0781-0782</b> | <b>0941-0942</b> | <b>1101-1102</b> | <b>1261-1262</b> |

| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1282</b> | <b>1441-1442</b> | <b>1601-1602</b> | <b>1761-1762</b> |
| <b>1301-1302</b> | <b>1461-1462</b> | <b>1621-1622</b> | <b>1781-1782</b> |
| <b>1321-1322</b> | <b>1481-1482</b> | <b>1641-1642</b> | <b>1801-1802</b> |
| <b>1341-1342</b> | <b>1501-1502</b> | <b>1661-1662</b> | <b>1821-1822</b> |
| <b>1361-1362</b> | <b>1521-1522</b> | <b>1681-1682</b> | <b>1841-1842</b> |
| <b>1381-1382</b> | <b>1541-1542</b> | <b>1701-1702</b> | <b>1861-1862</b> |
| <b>1401-1402</b> | <b>1561-1562</b> | <b>1721-1722</b> | <b>1881-1882</b> |
| <b>1421-1422</b> | <b>1581-1582</b> | <b>1741-1742</b> | <b>1901-1902</b> |

| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-1922</b> | <b>2081-2082</b> | <b>2241-2242</b> | <b>2401-2402</b> |
| <b>1941-1942</b> | <b>2101-2102</b> | <b>2261-2262</b> | <b>2421-2422</b> |
| <b>1961-1962</b> | <b>2121-2122</b> | <b>2281-2282</b> | <b>2441-2442</b> |
| <b>1981-1982</b> | <b>2141-2142</b> | <b>2301-2302</b> | <b>2461-2462</b> |
| <b>2001-2002</b> | <b>2161-2162</b> | <b>2321-2322</b> | <b>2481-2482</b> |
| <b>2021-2022</b> | <b>2181-2182</b> | <b>2341-2342</b> | <b>2501-2502</b> |
| <b>2041-2042</b> | <b>2201-2202</b> | <b>2361-2362</b> | <b>2521-2522</b> |
| <b>2061-2062</b> | <b>2221-2222</b> | <b>2381-2382</b> | <b>2541-2542</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number  
**wxkqr** - Hierarchical TO NPC number

**uv, wx** - Unit number  
**m, k** - Module number  
**np, qr** - NPC number within the module

The valid values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

MB type NPC numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-8</b> | <b>01-02</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM channel number

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**jjj** - TO channel number

001-085 (MB NPC)

**TLP** - Transmission level point

Specify the incoming and outgoing gain adjustments relative to the TO multipoint circuit by using the TLP (snn,smm) field. Gain adjustment snn is applied as the signal enters the bridge, while smm is applied as the signal leaves.

- snn** - Incoming gain adjust parameter  
**smm** - Outgoing gain adjust parameter  
**s** - Sign (+ or -)  
**nn** - Incoming gain adjust value (-90 through +88)  
**mm** - Outgoing gain adjust value (-90 through +88)

These are the parameters requested for the TO termination. Values are given in steps of two and the units are tenths of a db.

Certain situations require replacement of the gain adjust parameter values with "---". In general "---" is used for either snn or smm (but not both) when no change is to be made to that parameter. This feature allows changing only one of the two parameters if desired. Also, if the cross-connection was provisioned with the NTR (no transmit) option, the gain adjustment in the direction for which transmission is shut off MUST be ---. See the table below to see what situations require "---".

| <i>FROM</i> | <i>TO</i> | <i>snn</i>          | <i>smm</i> |
|-------------|-----------|---------------------|------------|
| BRD         | BBL       | ---                 | smm        |
| BBL         | BRD       | snn                 | ---        |
| LEG         | BBL       | ---                 | smm        |
| LEG         | BRD       | snn                 | ---        |
| LEG         | SYM       | snn                 | smm        |
| BBL         | LEG       | Invalid combination |            |
| BBL         | SYM       | Invalid combination |            |
| BRD         | LEG       | Invalid combination |            |
| BRD         | SYM       | Invalid combination |            |

- NG** - Noise guard  
**nn** - Requested NG level setting (00, 06, 12, or 18) db

To specify the noise guard level setting, use NG nn. The following default values apply:

For Symmetrical bridges Default: NG = -18 db  
For Polling circuits Default: NG = 0 db

- ES** - Echo suppression  
**ee** - Requested ES level setting (00, 06, 12, or 18) db

To specify the echo suppression level setting, use ES ee. The following default values apply:

For Symmetrical bridges Default: ES = -18 db  
For Polling circuits Default: ES = 0 db

At least one of the three parameters (TLP, NG, ES) must be specified.

Since a BBL (backbone leg) has no input to the bridge and the bridge has no output to a BRD (broadcast) leg, transmission values in these directions cannot be changed.

**INCL** - Inclusive

INCL is used to change the parameters on a circuit marked either as a red or a customer controlled circuit. If this option is not used, the command will be denied such a circuit.

**spp, sqq**

- New gain setting. Otherwise, the same as snn and smm.

**ff** - New noise guard setting. Otherwise, the same as nn.

**hh** - New echo suppression setting. Otherwise, the same as ee.

**RDC** - Red circuit

These keywords indicate the connection is marked as a red circuit.

**CUS** - Customer

The connection is a Customer-controlled Circuit.

**cc** - Hexadecimal condition code

**cc**    *Explanation*

|           |                                                                      |
|-----------|----------------------------------------------------------------------|
| <b>03</b> | No RDC or CUS circuits and INCL keyword used                         |
| <b>13</b> | UNIT not equipped, not in service, or failed                         |
| <b>18</b> | DSPI not equipped, not in service, or failed                         |
| <b>A0</b> | Illegal LEG LEG combination                                          |
| <b>A1</b> | Illegal BBL BBL combination                                          |
| <b>A2</b> | Illegal BRD BRD combination                                          |
| <b>A3</b> | Illegal SYM BRD combination                                          |
| <b>A4</b> | Illegal BRD SYM combination                                          |
| <b>A5</b> | Illegal BBL SYM combination                                          |
| <b>A6</b> | Illegal SYM BBL combination                                          |
| <b>AF</b> | Delete or change a leg from a conference that has no leg             |
| <b>B2</b> | Transmission parameters in command will not change existing settings |
| <b>B3</b> | Trying to change level out on BRD leg                                |
| <b>B4</b> | Trying to change level in on BBL leg                                 |
| <b>B6</b> | TO side is not a DMB type NPC                                        |
| <b>AE</b> | A substrate circuit pack is specified in the command line            |
| <b>B5</b> | CPR circuit pack specified in the command                            |
| <b>D0</b> | FROM NPC is not provisioned as DGA                                   |



**cc**    *Explanation*

- D3**    Corresponding NPC for FROM virtual channel is not provisioned
- D6**    Invalid FROM channel number
- 43**    Trying to change in NTR direction

## **CHG,HUBID,O**

### **CHANGE HUB IDENTIFICATION**

#### **Explanation Of Command**

For **Subrate**, this command requests a change of the frame Hub Identification (**HUBID**) number. The **HUBID** must be set, using this change command before any TYPE MJ100 NPCs can be grown in the frame.

#### **Command**

[I.38251]

**CHG:FRM xy,SEQ ww:HUBID O'ab!**

#### **Completion Message**

[O.38251]

**M hh:mm:ss xy,ww n[vv] CHG HUBID O'ab COND cc COMPL**

#### **Denial Message**

[O.38251.01]

**M hh:mm:ss xy,ww n[vv] CHG HUBID O'ab COND cc DNY**

#### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**HUBID** - Hub identification

**ab** - Multipoint junction unit (MJU) hub identification code, octal (00 through 77) subrate MJU use this code in response to in-band test messages.

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>Explanation</b> |
|-----------|--------------------|
|-----------|--------------------|

|           |                             |
|-----------|-----------------------------|
| <b>11</b> | <b>UC is out of service</b> |
|-----------|-----------------------------|

|           |                                    |
|-----------|------------------------------------|
| <b>12</b> | <b>UC is in service but failed</b> |
|-----------|------------------------------------|

|           |                            |
|-----------|----------------------------|
| <b>37</b> | <b>DSPI out-of-service</b> |
|-----------|----------------------------|

|           |                    |
|-----------|--------------------|
| <b>3E</b> | <b>DSPI failed</b> |
|-----------|--------------------|

|           |                                            |
|-----------|--------------------------------------------|
| <b>9D</b> | <b>current hub id specified in command</b> |
|-----------|--------------------------------------------|

## **CHG,MACRO,MAP,SPACE**

### **CHANGE MACRO SPACE**

#### **Explanation Of Command**

This command is used by the frame administrator to request a change in the amount of memory space allocated to macros or maps for all users of the system.

#### **Command**

[I.38501]

**CHG:FRM xy,SEQ ww:{MACRO|MAP},SPACE sss!**

#### **Completion Message**

[O.38501]

**M hh:mm:ss xy,ww n[vv] CHG {MACRO|MAP} SPACE NEW sss \  
OLD ttt COMPL**

#### **Denial Message**

[O.38501.01]

**M hh:mm:ss xy,ww n[vv] CHG {MACRO|MAP} SPACE sss COND cc \  
DNY**

#### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**SPACE** - Space

**sss** - User macro or map space allocation (000 through 100 percent)

Variable sss represents the space allocated to user macros or maps for entire DACS II system as a percentage of the system macro space.

**ttt** - Old user macro space allocation (000 through 100 percent)

Variable ttt represents the space previously allocated to user macros for the entire DACS II system as a percentage of the system macro space.

**cc** - Hexadecimal condition code

**cc** *Explanation*

**D0** Command is Frame administrator (DAX) only.

**CHG,NPC,ALMOPT,PLOPT,AIS,INFO,MJ,MN,PL**

CHANGE NPC AIS ALARM OPTION

## **Explanation Of Command**

---

This command may be used to program either the Network Processing Circuit (NPC) Alarm Indication Signal (AIS) alarm option or the ANSI NPC payload loopback capability, but not both simultaneously.

To program the payload loopback capability the NPC(s) must be out of service.

To program the AIS alarm option, the input command must contain the ALMOPT and AIS {INFO|MJ|MN} keywords in the command line; it must not contain the PLOPT and PL {ENA|DSA} keywords. In this case, the command changes the NPC AIS alarm option to Information (INFO), Major (MJ), or Minor (MN) alarm for all domestic non-SLC® NPC types. This command is not valid for DS-type NPCs.

To program the payload loopback capability, the input command must contain the PLOPT and PL {ENA|DSA} keywords in the command line; it must not contain the ALMOPT and AIS {INFO|MJ|MN} keywords. In this case, the command changes the far-end initiated (via the ESF data link) payload loopback capability for ANSI NPCs to Enabled (ENA) or Disabled (DSA) for domestic ANSI NPCs (DA and TA types).

If both keyword sets appear simultaneously in the input command, or if the AIS and payload loopback keywords are mixed, the command will be denied.

If the feature applies to one or more NPCs within the addressed range, DACS II will perform the command on the NPCs in the range that support the requested feature, but skip the NPCs which do not support the requested feature. DACS II provides a variety of line termination types which support different features and can be randomly mixed within the frame. If at least one of the NPCs in the addressed range supports the requested feature, DACS II will generate a completion message for the entire unit of NPCs; individual denial messages will not be generated for NPCs within the range which do not support the feature. If *none* of the NPCs in the addressed range support the requested feature, DACS II will generate a range denial message.

## **Command**

---

### **Nonhierarchical**

---

[I.38281]

```
CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]ghi],\  
{ALMOPT|PLOPT},{AIS {INFO|MJ|MN}|PL {ENA|DSA}}!
```

## Hierarchical

[I.38281]

CHG:FRM xy,SEQ ww:NPC uvmnp[-wxkqr],\  
{ALMOPT|PLOPT},{AIS {INFO|MJ|MN}|PL {ENA|DSA}}!

## Completion Message

### Nonhierarchical

Usage: FOR FT UNIT

[O.38281]

M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc[-[s]def] \  
{ALMOPT|PLOPT} {AIS {INFO|MJ|MN}|PL {ENA|DSA}} e LN MSG:  
TOT nnn  
stttt stttt stttt stttt stttt stttt stttt stttt stttt stttt  
stttt stttt stttt stttt stttt stttt stttt stttt stttt stttt  
stttt stttt stttt stttt stttt stttt stttt stttt stttt stttt  
stttt stttt stttt stttt stttt stttt stttt stttt stttt stttt \  
EOM

          :              :              :  
          :              :              :  
M hh:mm:ss xy,ww n[vv] CHG NPC [t]jkl[-[t]ghi] \  
{ALMOPT|PLOPT} {AIS {INFO|MJ|MN}|PL {ENA|DSA}} e LN MSG:  
TOT nnn  
stttt stttt stttt stttt stttt stttt stttt stttt stttt stttt  
stttt stttt stttt stttt stttt stttt stttt stttt stttt stttt  
stttt stttt stttt stttt stttt stttt stttt stttt stttt stttt  
stttt stttt stttt stttt stttt stttt stttt stttt stttt stttt \  
EOM

M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc[-[t]ghi] \  
{ALMOPT|PLOPT} {AIS {INFO|MJ|MN}|PL {ENA|DSA}} COMPL



Usage: FOR DS3 UNIT

[O.38281]

```
M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc[-[s]def] \
{ALMOPT|PLOPT} {AIS {INFO|MJ|MN}|PL {ENA|DSA}} e LN MSG:
TOT nnn
stttt stttt stttt stttt stttt stttt stttt stttt
stttt stttt stttt stttt stttt stttt stttt stttt
stttt stttt stttt stttt stttt stttt stttt stttt
stttt stttt stttt stttt stttt stttt stttt stttt EOM
      :           :           :
      :           :           :
```

```
M hh:mm:ss xy,ww n[vv] CHG NPC [t]jkl[-[t]ghi] \
{ALMOPT|PLOPT} {AIS {INFO|MJ|MN}|PL {ENA|DSA}} e LN MSG:
TOT nnn
stttt stttt stttt stttt stttt stttt stttt stttt
stttt stttt stttt stttt stttt stttt stttt stttt
stttt stttt stttt stttt stttt stttt stttt stttt
stttt stttt stttt stttt stttt stttt stttt stttt EOM
```

```
M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc[-[t]ghi] \
{ALMOPT|PLOPT} {AIS {INFO|MJ|MN}|PL {ENA|DSA}} COMPL
```

## **Hierarchical**

---

Usage: FOR FT UNIT

[O.38281]

```
M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp[-defgh] \
{ALMOPT|PLOPT} {AIS {INFO|MJ|MN}|PL {ENA|DSA}}
e LN MSG:
TOT nnn
stttt stttt stttt stttt stttt stttt stttt stttt stttt stttt
stttt stttt stttt stttt stttt stttt stttt stttt stttt stttt
stttt stttt stttt stttt stttt stttt stttt stttt stttt stttt
stttt stttt stttt stttt stttt stttt stttt stttt stttt stttt \
EOM
      :           :           :
      :           :           :
```

```
M hh:mm:ss xy,ww n[vv] CHG NPC ijklm[-wxkqr] \  
{ALMOPT|PLOPT} {AIS {INFO|MJ|MN}|PL {ENA|DSA}}  
e LN MSG:  
TOT nnn  
stttt stttt stttt stttt stttt stttt stttt stttt stttt stttt  
stttt stttt stttt stttt stttt stttt stttt stttt stttt stttt  
stttt stttt stttt stttt stttt stttt stttt stttt stttt stttt  
stttt stttt stttt stttt stttt stttt stttt stttt stttt stttt \  
EOM
```

```
M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp[-wxkqr] \  
{ALMOPT|PLOPT} {AIS {INFO|MJ|MN}|PL {ENA|DSA}} COMPL
```

Usage: FOR DS3 UNIT

[O.38281]

```
M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp[-defgh] \  
{ALMOPT|PLOPT} {AIS {INFO|MJ|MN}|PL {ENA|DSA}}  
e LN MSG:  
TOT nnn  
stttt stttt stttt stttt stttt stttt stttt  
stttt stttt stttt stttt stttt stttt stttt  
stttt stttt stttt stttt stttt stttt stttt  
stttt stttt stttt stttt stttt stttt stttt EOM  
      :           :           :  
      :           :           :
```

```
M hh:mm:ss xy,ww n[vv] CHG NPC ijklm[-wxkqr] \  
{ALMOPT|PLOPT} {AIS {INFO|MJ|MN}|PL {ENA|DSA}}  
e LN MSG:  
TOT nnn  
stttt stttt stttt stttt stttt stttt stttt  
stttt stttt stttt stttt stttt stttt stttt  
stttt stttt stttt stttt stttt stttt stttt  
stttt stttt stttt stttt stttt stttt stttt EOM
```

```
M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp[-wxkqr] \  
{ALMOPT|PLOPT} {AIS {INFO|MJ|MN}|PL {ENA|DSA}} COMPL
```

## **Denial Message**

---

### **Nonhierarchical**

---

[O.38281.01]

M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc[-[t]ghi] \  
{ALMOPT|PLOPT} {AIS {INFO|MJ|MN}|PL {ENA|DSA}} COND cc DNY

[O.38281.02]

M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc[-[t]ghi] \  
{ALMOPT|PLOPT} {AIS {INFO|MJ|MN}|PL {ENA|DSA}} UEQD DNY

### **Hierarchical**

---

[O.38281.01]

M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp[-wxkqr] \  
{ALMOPT|PLOPT} {AIS {INFO|MJ|MN}|PL {ENA|DSA}} COND cc DNY

[O.38281.02]

M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp[-wxkqr] \  
{ALMOPT|PLOPT} {AIS {INFO|MJ|MN}|PL {ENA|DSA}} UEQD DNY

## **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

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- |        |                                                                          |
|--------|--------------------------------------------------------------------------|
| [s]abc | - The 3- or 4-digit nonhierarchical NPC number at beginning of a range   |
| [t]ghi | - The 3- or 4 digit nonhierarchical NPC number at end of a range         |
| [s]def | - The 3- or 4-digit nonhierarchical NPC number between [s]abc and [t]jkl |
| [t]jkl | - The 3- or 4-digit nonhierarchical NPC number between [s]def and [t]ghi |

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |
| <b>16A-16H</b>               | <b>32A-32H</b>               | <b>48A-48H</b>               | <b>64A-64H</b>               | <b>80A-80H</b>               | <b>96A-96H</b>               |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number at beginning of range  
**wxkqr** - Hierarchical NPC number at beginning of range  
**defgh** - Hierarchical NPC number between uvmnp and ijklm  
**ijklm** - Hierarchical NPC number between defgh and wxkqr

**uv,wx** - Unit number  
**m,k** - Module number in unit uv  
**np,qr** - NPC number in module m

The allowable values are presented below:

DE, DS, and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ALMOPT** - Alarm option

**AIS** - Alarm indication signal

Type of alarm. AIS is not detected by unframed clear (unchannelized) 2Mbit/s PAXDz type NPCs. Therefore, specifying AIS with one of the alarm level types MI, DMA, or PMA, is unnecessary. However, the command will not be denied if AIS is specified with an alarm level for unframed clear PAXDz NPCs. AIS with its alarm level will simply never be reported for unframed clear PAXDz NPCs.

**INFO** - Information

Information message (not an alarm). This is the default option for domestic NPCs.

**MJ** - Major

Major alarm.

**MN** - Minor

Minor alarm.

**TOT nnn**

- Total number of NPCs in the output segment.

**PLOPT** - Payload loopback option

The NPC(s) must be out of service to use this option.

**PL** - Payload loopback

**ENA** - Enabled

The ANSI NPC will respond to payload loopback requests received from the far-end terminal over the ESF data link. This is the default option.

**DSA** - Disabled

The ANSI NPC will not respond to payload loopback requests received from the far-end terminal over the ESF data link.

**s** - Status of the AIS alarm or payload loopback capability.

*s Explanation*

\* The AIS alarm option/payload loopback capability of the NPC has been changed.

blank The AIS alarm option/payload loopback capability of the NPC has not been changed.

**tttt** - The old AIS alarm option/payload loopback setting for the NPC.

*tttt Explanation*

INFO AIS programmed for Information message

MJ AIS programmed for Major alarm

MN AIS programmed for Minor alarm

ENA ANSI payload loopback capability enabled

DSA ANSI payload loopback capability disabled

---- Not applicable (for unequipped NPCs or not valid NPC type within the specified NPC range)

**cc** - Hexadecimal condition code

*cc Explanation*

**02** Subject entity is not equipped

**10** Unit is not equipped

**11** UC is out of service

**12** UC is in service but failed

**13** FTMI is not equipped

**14** FTMI is out of service

**15** NPC is unequipped

**C9** In-service NPC change not allowed

**FD** NPC range crosses unit boundary

**70** NPC invalid type

**60** Selectable AIS not valid for specified NPC(s) type

**61** All NPC(s) are either not valid or not grown

**62** IU type NPC(s) cannot be provisioned for Minor Alarm

**67** NPC(s) actual type incompatible with TYPE keyword and/or alarm type

**A5** AIS keyword incompatible with NPC type

## **CHG,NPC,OPTS**

---

### **CHANGE NPC OPTIONS**

#### **Explanation Of Command**

---

This message changes the facility performance parameter threshold values on a specified Network Processing Circuit (NPC) without disconnecting and reconnecting provisioned circuits.

One or more alarm or information threshold values for the designated NPC may be changed to a value previously stored in the DACS II threshold data base. These previously stored values are selected through use of the indices **rr/m**.

Each facility parameter of an NPC has a default threshold and up to three user-programmable threshold values stored in the DACS II threshold data base. The **CHG SETOP NPCOP** command sets these values.

**Note:** This command will not reboot the NPC hardware. Therefore, if any NPCs are in service, use the **UTL : :BOOT,FRAME** command (Message I.58001) to avoid any possible inconsistency.

#### **Command**

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##### **Nonhierarchical**

---

[I.38221]

**CHG:FRM xy,SEQ ww:NPC [s]abc,OPTS(rr/m[,rr/m][...])!**

##### **Hierarchical**

---

[I.38221]

**CHG:FRM xy,SEQ ww:NPC uvmnp,OPTS(rr/m[,rr/m][...])!**



## Completion Message

### Nonhierarchical

[O.38221]

```
M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc TYPE mnxyz[ IW pq] 5 LN MSG:
      SLIP      BER      ERS      SERS      COFA      [SANE]      [SAFE]
THRESHOLDS mmm nnn p q      rrrrr sss      ttt uuu [xxxxx] [zzzzz]
OPTIONS      e f g h      i j      k l      [m]      [n]
OLD OPTIONS  s t u v      w x      y z      [b]      [c] COMPL
```

For ANSI (DA and TA type) NPCs:

[O.38222]

```
M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc TYPE mnxyz[ IW pq] 5 LN MSG:
DAILY NE      CVP      ESP      SESP      SEFS      CSSP      UASP      CVL      ESL      SESL
THRESHOLDS aaaaaaaaaa bbbbbb ccccc ddddd eeeee fffff gggggggggg hhhhh iiiii
OPTIONS      a      b c d e f g h i
OLD OPTIONS á      ß ı đ é ƒ ġ ħ í EOM
```

```
M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc TYPE mnxyz[ IW pq] 5 LN MSG:
DAILY FE      CVP      ESP      SESP      SEFS      CSSP      UASP      ESL
THRESHOLDS jjjjjjjjj kkkkk lllll mmmmm nnnnn ooooo ppppp
OPTIONS      j      k l m n o p
OLD OPTIONS ĵ      ħ ı ŕ ŕ ó ƒ EOM
```

```
M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc TYPE mnxyz[ IW pq] 5 LN MSG:
15MIN NE      CVP      ESP      SESP      SEFS      CSSP      UASP      CVL      ESL      SESL
THRESHOLDS aaaaaaa bbb ccc ddd eee fff ggggggg hhh iii
OPTIONS      a      b c d e f g h i
OLD OPTIONS á      ß ı đ é ƒ ġ ħ í EOM
```

```
M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc TYPE mnxyz[ IW pq] 5 LN MSG:
15MIN FE      CVP      ESP      SESP      SEFS      CSSP      UASP      ESL
THRESHOLDS jjjjjjj kkk lll mmm nnn ooo ppp
OPTIONS      j      k l m n o p
OLD OPTIONS ĵ      ħ ı ŕ ŕ ó ƒ COMPL
```

## Hierarchical

[O.38221]

```

M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp TYPE mnxyz[ IW pq] 5 LN MSG:
      SLIP      BER      ERS      SERS      COFA      [SANE]      [SAFE]
THRESHOLDS mmm nnn p q      rrrrr sss      ttt uuu [xxxxx] [zzzzz]
OPTIONS      e f g h      i j      k l      [m] [n]
OLD OPTIONS  s t u v      w x      y z      [b] [c] COMPL

```

For ANSI (DA and TA type) NPCs:

[O.38222]

```

M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp TYPE mnxyz[ IW pq] 5 LN MSG:
DAILY NE      CVP      ESP      SESP      SEFS      CSSP      UASP      CVL      ESL      SESL
THRESHOLDS aaaaaaaaaa bbbbbb ccccc ddddd eeeee fffff gggggggggg hhhhh iiiii
OPTIONS      a      b      c      d      e      f      g      h      i
OLD OPTIONS á      ß      ć      đ      é      f      g      h      i      EOM

```

```

M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp TYPE mnxyz[ IW pq] 5 LN MSG:
DAILY FE      CVP      ESP      SESP      SEFS      CSSP      UASP      ESL
THRESHOLDS jjjjjjjjj kkkkk lllll mmmmm nnnnn ooooo ppppp
OPTIONS      j      k      l      m      n      o      p
OLD OPTIONS j      k      l      m      n      o      p      EOM

```

```

M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp TYPE mnxyz[ IW pq] 5 LN MSG:
15MIN NE      CVP      ESP      SESP      SEFS      CSSP      UASP      CVL      ESL      SESL
THRESHOLDS aaaaaaa bbb ccc ddd eee fff ggggggg hhh iii
OPTIONS      a      b      c      d      e      f      g      h      i
OLD OPTIONS á      ß      ć      đ      é      f      g      h      i      EOM

```

```

M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp TYPE mnxyz[ IW pq] 5 LN MSG:
15MIN FE      CVP      ESP      SESP      SEFS      CSSP      UASP      ESL
THRESHOLDS jjjjjjj kkk lll mmm nnn ooo ppp
OPTIONS      j      k      l      m      n      o      p
OLD OPTIONS j      k      l      m      n      o      p      COMPL

```

### **Denial Message**

---

### **Nonhierarchical**

---

[O.38221.01]

M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc TYPE mnxyz[ ss/n] \  
COND cc DNY

### **Hierarchical**

---

[O.38221.01]

M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp TYPE mnxyz[ ss/n] \  
COND cc DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

The valid numbers are:

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The allowable values are presented below:

DE, DS, and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**rr** - Facility performance parameter number

Variable rr specifies the parameter whose alarm threshold is being selected.

**m** - Facility performance parameter threshold index (0 through 3)

Variable m is used to select threshold values previously programmed for rr. The default threshold value, the value selected by m=0, for each parameter is shown in the table below under the column heading "Default Threshold Value". Threshold values selected by m=1 through m=3 must exist; that is, must have been programmed prior to being selected. The non-default thresholds can be set by using the CHG::SETOP (I.38201) command.

Clear-DS1 ANSI NPCs (DAxy9/TAxy9) provide the same set of path and line performance monitoring parameters that are provided by terminated ANSI NPC types. ANSI NPCs in DS3 Units (TAxyz) do not provide near-end DS1 line performance monitoring parameters.

For DE type NPCs, parameters with values rr = 1 through 8 are valid.  
For DS type NPCs, parameters with values rr = 1 through 10 are valid.  
For TE type NPCs, parameters with values rr = 1 through 8 are valid.  
For Clear-DS1 DE type NPCs, parameters with values rr = 1 through 4 are valid.  
For Clear-DS1 TE type NPCs, parameters with values rr = 1 through 2 are valid.

| rr | Parameter                             | Threshold<br>Value<br>Range | Default<br>Threshold<br>Value |
|----|---------------------------------------|-----------------------------|-------------------------------|
| 01 | Slip major                            | 000 to 255                  | 255                           |
| 02 | Slip minor                            | 000 to 255                  | 4                             |
| 03 | Bit Error Rate major                  | 1E-3* to 1E-6 <sup>†</sup>  | 1E-3*                         |
| 04 | Bit Error Rate minor                  | 1E-3* to 1E-6 <sup>†</sup>  | 1E-6                          |
| 05 | Errored Seconds <sup>‡</sup>          | 00001 to 65535              | 864                           |
| 06 | Severely Errored Seconds <sup>‡</sup> | 001 to 255                  | 225                           |
| 07 | Change of Frame Alignment major       | 001 to 511                  | 511                           |
| 08 | Change of Frame Alignment minor       | 001 to 255                  | 17                            |
| 09 | Shelf Alarm Near End(SANE)§           | 00001 to 65535              | 00000                         |
| 10 | Shelf Alarm Far End(SAFE)§            | 00001 to 65535              | 00000                         |

\* 4 for clear-DS1 NPCs or DS type NPCs (default)

<sup>†</sup> 7 on DE or TE type NPCs using T1DM (x = 4) or ESF (x = 2 or 3) framing

<sup>‡</sup> Only applicable to DE or TE type NPCs using T1DM (x = 4) or ESF (x = 2 or 3) framing

§ Applicable only to DS type NPCs

**Note 1:** Major thresholds must be greater than minor thresholds.

**Note 2:** For Bit Error Rates, enter only the power of 10 (DACS assumes its sign is negative). For example, for a BER of  $10^{-3}$  (.001), enter 3.

**Note 3:** Slip major and Slip minor threshold crossing alarms may be disabled by programming threshold values of zero for the respective parameters.

**Note 4:** Only parameters 01 through 04 are allowed for DE type clear DS1.

**Note 5:** Only 01 through 02 are allowed for TE type clear DS1

For Channelized and Clear-DS1 DA type NPCs with ESF framing, all of the following Near-end and Far-end parameters are valid.

For Channelized and Clear-DS1 DA type NPCs with D4 or T1DM framing, all of the following Near-end parameters are valid, but the only valid Far-end parameter is Unavailable Seconds (rr = 55,71).

For Channelized and Clear-DS1 TA type NPCs with ESF framing, all of the following Near-end Path parameters are valid, but the Near-End Line parameters (rr = 47-49, 63-65) are invalid. All of the following Far-end parameters are valid.

For Channelized and Clear-DS1 TA type NPCs with D4 or T1DM framing, the following Near-end Path parameters are valid, but the Near-End Line parameters (rr = 47-49, 63-65) are invalid. The only valid Far-end parameter is Unavailable Seconds (rr = 55,71).

| rr | Parameter                                           | Threshold Value Range  | Default Threshold Value |
|----|-----------------------------------------------------|------------------------|-------------------------|
| 41 | Daily Near-end Path Coding Violations               | 000000000 to 134217727 | 132960 <sup>†</sup>     |
| 42 | Daily Near-end Path Errored Seconds                 | 00000 to 86400         | 648                     |
| 43 | Daily Near-end Path Severely Errored Seconds        | 00000 to 86400         | 100                     |
| 44 | Daily Near-end Severely Errored Framing Seconds     | 00000 to 86400         | 17                      |
| 45 | Daily Near-end Controlled Slip Seconds              | 00000 to 86400         | 4                       |
| 46 | Daily Near-end Unavailable Seconds                  | 00000 to 86400         | 10                      |
| 47 | Daily Near-end Line Coding Violations               | 000000000 to 134217727 | 133400                  |
| 48 | Daily Near-end Line Errored Seconds                 | 00000 to 86400         | 648                     |
| 49 | Daily Near-end Line Severely Errored Seconds        | 00000 to 86400         | 100                     |
| 50 | Daily Far-end Path Coding Violations                | 000000000 to 134217727 | 132960 <sup>†</sup>     |
| 51 | Daily Far-end Path Errored Seconds                  | 00000 to 86400         | 648                     |
| 52 | Daily Far-end Path Severely Errored Seconds         | 00000 to 86400         | 100                     |
| 53 | Daily Far-end Severely Errored Framing Seconds      | 00000 to 86400         | 17                      |
| 54 | Daily Far-end Controlled Slip Seconds               | 00000 to 86400         | 4                       |
| 55 | Daily Far-end Unavailable Seconds                   | 00000 to 86400         | 10                      |
| 56 | Daily Far-end Line Errored Seconds                  | 00000 to 86400         | 648                     |
| 57 | 15-Minute Near-end Path Coding Violations           | 0000000 to 2097151     | 13296 <sup>†</sup>      |
| 58 | 15-Minute Near-end Path Errored Seconds             | 000 to 900             | 65                      |
| 59 | 15-Minute Near-end Path Severely Errored Seconds    | 000 to 900             | 10                      |
| 60 | 15-Minute Near-end Severely Errored Framing Seconds | 000 to 900             | 2                       |
| 61 | 15-Minute Near-end Controlled Slip Seconds          | 000 to 900             | 1                       |
| 62 | 15-Minute Near-end Unavailable Seconds              | 000 to 900             | 10                      |
| 63 | 15-Minute Near-end Line Coding Violations           | 0000000 to 2097151     | 13340                   |
| 64 | 15-Minute Near-end Line Errored Seconds             | 000 to 900             | 65                      |
| 65 | 15-Minute Near-end Line Severely Errored Seconds    | 000 to 900             | 10                      |
| 66 | 15-Minute Far-end Path Coding Violations            | 0000000 to 2097151     | 13296 <sup>†</sup>      |
| 67 | 15-Minute Far-end Path Errored Seconds              | 000 to 900             | 65                      |
| 68 | 15-Minute Far-end Path Severely Errored Seconds     | 000 to 900             | 10                      |



|           |                                                    |            |    |
|-----------|----------------------------------------------------|------------|----|
| <b>69</b> | 15-Minute Far-end Severely Errored Framing Seconds | 000 to 900 | 2  |
| <b>70</b> | 15-Minute Far-end Controlled Slip Seconds          | 000 to 900 | 1  |
| <b>71</b> | 15-Minute Far-end Unavailable Seconds              | 000 to 900 | 10 |
| <b>72</b> | 15-Minute Far-end Line Errored Seconds             | 000 to 900 | 65 |

† The value shown applies to ESF framing and is a count of CRC errors. When the DS1 has D4 or T1DM framing, framing errors are counted and the default Daily value is 691.

‡ The value shown applies to ESF framing and is a count of CRC errors. When the DS1 has D4 or T1DM framing, framing errors are counted and the default 15-Minute value is 72.

**uvmnp** - Hierarchical NPC number

**TYPE** - Type

**mnxyz** - NPC type

DExyz - FTU DS1 NPC type

TExyz - DS3U DS1 NPC type

DSxyz - SLC Carrier digroup terminating NPC type

DAxyz - FTU DS1 ANSI NPC type

TAxyz - DS3U DS1 ANSI NPC type

DE-type xyz fields

**x** - Multiframe format for the digroup

**x** *Explanation*

**0** Not assigned

**1** D4

**2** ESF - Voice

**3** ESF - Data

**4** DDST (T1DM - R bit connection via channel 24)

**5-7** Not assigned

**8** Ericsson Cellular format

**9** No framing format, transparent (TRSP), clear-DS1

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                        |
|------------|-----------------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                               |
| <b>1*</b>  | NZCS - No zero code suppression                           |
| <b>2*</b>  | B8ZS - Bipolar with 8 zero substitution                   |
| <b>3†</b>  | ZBTSI - Zero-bit time-slot interchanger                   |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling             |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling         |
| <b>6</b>   | B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling |
| <b>7-9</b> | Not assigned                                              |

\* Only options 1 and 2 are applicable to DE-type clear-DS1 NPC.

† Only valid with ESF (x = 2 or 3)

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                     |
|------------|----------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering      |
| <b>1</b>   | D2 channel bank channel numbering      |
| <b>2</b>   | D1D channel bank channel numbering     |
| <b>3-8</b> | Not assigned                           |
| <b>9</b>   | No channel numbering format, clear-DS1 |

DS-type xyz fields

**x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>               |
|------------|----------------------------------|
| <b>0</b>   | Not assigned                     |
| <b>1</b>   | D4                               |
| <b>2</b>   | ESF - Voice                      |
| <b>3</b>   | Not assigned                     |
| <b>4</b>   | Not assigned                     |
| <b>5</b>   | Not assigned                     |
| <b>6</b>   | SLC® 96 carrier Fs               |
| <b>7</b>   | SLC 5 carrier ESF with data link |
| <b>8-9</b> | Not assigned                     |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                      |
|------------|-----------------------------------------|
| <b>0</b>   | Zero code suppression (ZCS)             |
| <b>1</b>   | No zero code suppression (NZCS)         |
| <b>2</b>   | Bipolar with 8 zero substitution (B8ZS) |
| <b>3-9</b> | Not assigned                            |

**z** - Counting sequence format

| <b>z</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | SLC 96 carrier Mode III D4 counting sequence  |
| <b>1</b>   | SLC 96 carrier Mode III D1D counting sequence |
| <b>2</b>   | SLC 96 carrier Mode I D1D counting sequence   |
| <b>3</b>   | SLC Series 5 carrier D4 counting sequence     |
| <b>4-9</b> | Not assigned                                  |

DA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                        |
|------------|-----------------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                               |
| <b>1*</b>  | NZCS - No zero code suppression                           |
| <b>2*</b>  | B8ZS - Bipolar with 8 zero substitution                   |
| <b>3</b>   | Not assigned                                              |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling             |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling         |
| <b>6</b>   | B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling |
| <b>7-9</b> | Not assigned                                              |

\* Only options 1 and 2 are applicable to DA-type clear-DS1 NPC.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering                |
| <b>1</b>   | D2 channel bank channel numbering                |
| <b>2</b>   | D1D channel bank channel numbering               |
| <b>3-8</b> | Not assigned                                     |
| <b>9</b>   | Unchannelized 193-bit Clear DS1 Cross-connection |

DA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a DA NPC with both a valid framing format (D4, ESF, T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the DA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II FTU, the NPC must be provisioned as NPC type **DE9y9**.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the DA NPC type. If ZBTSI is desired on an NPC in a DACS II FTU, the NPC must be provisioned as a DE NPC type with its **y** option selecting ZBTSI (**DEx3z**).

TA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                |
|------------|---------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                       |
| <b>1*</b>  | NZCS - No zero code suppression                   |
| <b>2</b>   | Not assigned                                      |
| <b>3</b>   | Not assigned                                      |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling     |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling |
| <b>6-9</b> | Not assigned                                      |

\* Only option 1 is applicable to TA-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering                |
| <b>1</b>   | D2 channel bank channel numbering                |
| <b>2</b>   | D1D channel bank channel numbering               |
| <b>3-8</b> | Not assigned                                     |
| <b>9</b>   | Unchannelized 193-bit Clear DS1 Cross-connection |

TA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a TA NPC with both a valid framing format (D4,ESF,T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the TA NPC type. If an unframed Clear DS1

cross-connection is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as NPC type TE919.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the TA NPC type. If ZBTSI is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as a TE NPC type with its **y** option selecting ZBTSI (**TEx3z**).

#### TE-type xyz fields

**x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | Not assigned                                     |
| <b>1</b>   | D4                                               |
| <b>2</b>   | ESF - Voice                                      |
| <b>3</b>   | ESF - Data                                       |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24)    |
| <b>5-7</b> | Not assigned                                     |
| <b>8</b>   | Ericsson Cellular format                         |
| <b>9</b>   | No framing format, transparent (TRSP), clear-DS1 |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                |
|------------|---------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                       |
| <b>1*</b>  | NZCS - No zero code suppression                   |
| <b>2</b>   | Not assigned                                      |
| <b>3</b>   | Not assigned                                      |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling     |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling |
| <b>6-9</b> | Not assigned                                      |

\* Only option 1 is applicable to TE-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                     |
|------------|----------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering      |
| <b>1</b>   | D2 channel bank channel numbering      |
| <b>2</b>   | D1D channel bank channel numbering     |
| <b>3-8</b> | Not assigned                           |
| <b>9</b>   | No channel numbering format, clear-DS1 |

**IW** - Insertion word

**pq** - Insertion word value (hexadecimal)

The value entered for pq is used as the disconnect code (DCC) or idle code. This value is inserted in the transmit direction on unassigned channels. An insertion word is not allowed for clear-DS1 NPCs; the all ones signal is transmitted for an idle clear-DS1 NPC. Thus, information about the disconnect code will not appear for any message involving a clear-DS1 type NPC. Although any hexadecimal value may be assigned, the following are some commonly used values:

| <i>pq</i> | <i>Explanation</i>                                                                                                                                                                  |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7F        | UAC (unassigned channel code), the default value                                                                                                                                    |
| 18        | UMC (unassigned multiplex code), should only be used with type DE4yz, TE4yz, DA4yz, and TA4yz, for a T1DM formatted facility. The growth command does not enforce this restriction. |
| FF        | Per channel all ones code, needed for not connected channels in SLC carrier and CPI applications.                                                                                   |

**SLIP** - Timing Slip

**BER** - Bit Error Rate

**ERS** - Errored Seconds

**SERS** - Severely Errored Seconds

**COFA** - Change of Frame Alignment

**SANE** - Shelf Alarm Near End

**SAFE** - Shelf Alarm Far End

#### SLIP

**mmm** - Slip major alarm threshold (0 through 255)

**nnn** - Slip minor alarm threshold (0 through 255)

**e** - Slip major alarm option selection (0 through 3)

**s** - Slip major alarm option old selection (0 through 3)

**f** - Slip minor alarm option selection (0 through 3)

**t** - Slip minor alarm option old selection (0 through 3)

### BER (Bit Error Rate)

- p** - BER major alarm threshold,  $(1E-p, 3^{\dagger} \leq p \leq 6^*)$
- q** - BER minor alarm threshold,  $(1E-q, 3^{\dagger} \leq q \leq 6^*)$ 
  - \* 7 on T1DM and Fe framing
  - <sup>†</sup> 4 for DE type clear-DS1 or DS type NPCs
- g** - BER major alarm option selection (0 through 3)
- u** - BER major alarm option old selection (0 through 3)
- h** - BER minor alarm option selection (0 through 3)
- v** - BER minor alarm option old selection (0 through 3)

### ERS (Errored Seconds)

- rrrrr** - ERS threshold (1 through 65535)
- i** - ERS option selection (0 through 3)
- w** - ERS option old selection (0 through 3)

### SERS (Severely Errored Seconds)

- sss** - SERS threshold (1 through 255)
- j** - SERS option selection (0 through 3)
- x** - SERS option old selection (0 through 3)

### COFA (Change of Frame Alignment)

- ttt** - COFA major alarm threshold (1 through 511)
- uuu** - COFA minor alarm threshold (1 through 255)
- k** - COFA major alarm option selection (0 through 3)
- y** - COFA major alarm option old selection (0 through 3)
- l** - COFA minor alarm option selection (0 through 3)
- z** - COFA minor alarm option old selection (0 through 3)

### SANE (Shelf Alarm Near End)

- xxxxx** - SANE threshold (0 through 65535)
- m** - SANE option selection (0 through 3)
- b** - SANE option old selection (0 through 3)

### SAFE (Shelf Alarm Far End)

- zzzzz** - SAFE threshold (0 through 65535)
- n** - SAFE option selection (0 through 3)
- c** - SAFE option old selection (0 through 3)

**Note:** Major thresholds must be greater than minor thresholds, except for the BER threshold of SLC® 96 carrier NPCs. For DE type clear-DS1 NPCs only SLIP and BER parameters are listed. For TE type clear-DS1 DS3U NPCs only SLIP parameters are listed. Both SANE and SAFE are only applicable to SLC 96 carrier NPCs.



For ANSI NPC types:

|             |                                    |
|-------------|------------------------------------|
| <b>CVP</b>  | - Path Coding Violations           |
| <b>ESP</b>  | - Path Errored Seconds             |
| <b>SESP</b> | - Path Severely Errored Seconds    |
| <b>SEFS</b> | - Severely Errored Framing Seconds |
| <b>CSSP</b> | - Path Controlled Slip Seconds     |
| <b>UASP</b> | - Path Unavailable Seconds         |
| <b>CVL</b>  | - Line Coding Violations           |
| <b>ESL</b>  | - Line Errored Seconds             |
| <b>SESL</b> | - Line Severely Errored Seconds    |

CVP (Path Coding Violations)

|                 |                                                                |
|-----------------|----------------------------------------------------------------|
| <b>aaaaaaaa</b> | - Path Coding Violation Daily NE threshold (0 to 134217727)    |
| <b>jjjjjjjj</b> | - Path Coding Violation Daily FE threshold (0 to 134217727)    |
| <b>aaaaaaa</b>  | - Path Coding Violation 15Min NE threshold (0 to 2097151)      |
| <b>jjjjjjj</b>  | - Path Coding Violation 15Min FE threshold (0 to 2097151)      |
| <b>a</b>        | - Path Coding Violation Daily NE option selection (0 to 3)     |
| <b>j</b>        | - Path Coding Violation Daily FE option selection (0 to 3)     |
| <b>a</b>        | - Path Coding Violation 15Min NE option selection (0 to 3)     |
| <b>j</b>        | - Path Coding Violation 15Min FE option selection (0 to 3)     |
| <b>a</b>        | - Path Coding Violation Daily NE option old selection (0 to 3) |
| <b>j</b>        | - Path Coding Violation Daily FE option old selection (0 to 3) |
| <b>a</b>        | - Path Coding Violation 15Min NE option old selection (0 to 3) |
| <b>j</b>        | - Path Coding Violation 15Min FE option old selection (0 to 3) |

ESP (Path Errored Seconds)

|               |                                                               |
|---------------|---------------------------------------------------------------|
| <b>bbbbbb</b> | - Path Errored Seconds Daily NE threshold (0 to 86400)        |
| <b>kkkkk</b>  | - Path Errored Seconds Daily FE threshold (0 to 86400)        |
| <b>bbb</b>    | - Path Errored Seconds 15Min NE threshold (0 to 900)          |
| <b>kkk</b>    | - Path Errored Seconds 15Min FE threshold (0 to 900)          |
| <b>b</b>      | - Path Errored Seconds Daily NE option selection (0 to 3)     |
| <b>k</b>      | - Path Errored Seconds Daily FE option selection (0 to 3)     |
| <b>b</b>      | - Path Errored Seconds 15Min NE option selection (0 to 3)     |
| <b>k</b>      | - Path Errored Seconds 15Min FE option selection (0 to 3)     |
| <b>b</b>      | - Path Errored Seconds Daily NE option old selection (0 to 3) |
| <b>k</b>      | - Path Errored Seconds Daily FE option old selection (0 to 3) |
| <b>b</b>      | - Path Errored Seconds 15Min NE option old selection (0 to 3) |
| <b>k</b>      | - Path Errored Seconds 15Min FE option old selection (0 to 3) |

### SESP (Path Severely Errored Seconds)

|             |                                                                        |
|-------------|------------------------------------------------------------------------|
| <b>cccc</b> | - Path Severely Errored Seconds Daily NE threshold (0 to 86400)        |
| <b>llll</b> | - Path Severely Errored Seconds Daily FE threshold (0 to 86400)        |
| <b>ccc</b>  | - Path Severely Errored Seconds 15Min NE threshold (0 to 900)          |
| <b>lll</b>  | - Path Severely Errored Seconds 15Min FE threshold (0 to 900)          |
| <b>c</b>    | - Path Severely Errored Seconds Daily NE option selection (0 to 3)     |
| <b>l</b>    | - Path Severely Errored Seconds Daily FE option selection (0 to 3)     |
| <b>c</b>    | - Path Severely Errored Seconds 15Min NE option selection (0 to 3)     |
| <b>l</b>    | - Path Severely Errored Seconds 15Min FE option selection (0 to 3)     |
| <b>c</b>    | - Path Severely Errored Seconds Daily NE option old selection (0 to 3) |
| <b>l</b>    | - Path Severely Errored Seconds Daily FE option old selection (0 to 3) |
| <b>c</b>    | - Path Severely Errored Seconds 15Min NE option old selection (0 to 3) |
| <b>l</b>    | - Path Severely Errored Seconds 15Min FE option old selection (0 to 3) |

### SEFS (Severely Errored Framing Seconds)

|             |                                                                           |
|-------------|---------------------------------------------------------------------------|
| <b>dddd</b> | - Severely Errored Framing Seconds Daily NE threshold (0 to 86400)        |
| <b>mmmm</b> | - Severely Errored Framing Seconds Daily FE threshold (0 to 86400)        |
| <b>ddd</b>  | - Severely Errored Framing Seconds 15Min NE threshold (0 to 900)          |
| <b>mmm</b>  | - Severely Errored Framing Seconds 15Min FE threshold (0 to 900)          |
| <b>d</b>    | - Severely Errored Framing Seconds Daily NE option selection (0 to 3)     |
| <b>m</b>    | - Severely Errored Framing Seconds Daily FE option selection (0 to 3)     |
| <b>d</b>    | - Severely Errored Framing Seconds 15Min NE option selection (0 to 3)     |
| <b>m</b>    | - Severely Errored Framing Seconds 15Min FE option selection (0 to 3)     |
| <b>d</b>    | - Severely Errored Framing Seconds Daily NE option old selection (0 to 3) |
| <b>m</b>    | - Severely Errored Framing Seconds Daily FE option old selection (0 to 3) |
| <b>d</b>    | - Severely Errored Framing Seconds 15Min NE option old selection (0 to 3) |
| <b>m</b>    | - Severely Errored Framing Seconds 15Min FE option old selection (0 to 3) |

### CSSP (Path Controlled Slip Seconds)

|             |                                                                       |
|-------------|-----------------------------------------------------------------------|
| <b>eeee</b> | - Path Controlled Slip Seconds Daily NE threshold (0 to 86400)        |
| <b>nnnn</b> | - Path Controlled Slip Seconds Daily FE threshold (0 to 86400)        |
| <b>eee</b>  | - Path Controlled Slip Seconds 15Min NE threshold (0 to 900)          |
| <b>nnn</b>  | - Path Controlled Slip Seconds 15Min FE threshold (0 to 900)          |
| <b>e</b>    | - Path Controlled Slip Seconds Daily NE option selection (0 to 3)     |
| <b>n</b>    | - Path Controlled Slip Seconds Daily FE option selection (0 to 3)     |
| <b>e</b>    | - Path Controlled Slip Seconds 15Min NE option selection (0 to 3)     |
| <b>n</b>    | - Path Controlled Slip Seconds 15Min FE option selection (0 to 3)     |
| <b>e</b>    | - Path Controlled Slip Seconds Daily NE option old selection (0 to 3) |
| <b>n</b>    | - Path Controlled Slip Seconds Daily FE option old selection (0 to 3) |
| <b>e</b>    | - Path Controlled Slip Seconds 15Min NE option old selection (0 to 3) |
| <b>n</b>    | - Path Controlled Slip Seconds 15Min FE option old selection (0 to 3) |

UASP (Path Unavailable Seconds)

|              |                                                                   |
|--------------|-------------------------------------------------------------------|
| <b>fffff</b> | - Path Unavailable Seconds Daily NE threshold (0 to 86400)        |
| <b>ooooo</b> | - Path Unavailable Seconds Daily FE threshold (0 to 86400)        |
| <b>fff</b>   | - Path Unavailable Seconds 15Min NE threshold (0 to 900)          |
| <b>ooo</b>   | - Path Unavailable Seconds 15Min FE threshold (0 to 900)          |
| <b>f</b>     | - Path Unavailable Seconds Daily NE option selection (0 to 3)     |
| <b>o</b>     | - Path Unavailable Seconds Daily FE option selection (0 to 3)     |
| <b>f</b>     | - Path Unavailable Seconds 15Min NE option selection (0 to 3)     |
| <b>o</b>     | - Path Unavailable Seconds 15Min FE option selection (0 to 3)     |
| <b>f</b>     | - Path Unavailable Seconds Daily NE option old selection (0 to 3) |
| <b>o</b>     | - Path Unavailable Seconds Daily FE option old selection (0 to 3) |
| <b>f</b>     | - Path Unavailable Seconds 15Min NE option old selection (0 to 3) |
| <b>o</b>     | - Path Unavailable Seconds 15Min FE option old selection (0 to 3) |

CVL (Line Coding Violations)

|                  |                                                                |
|------------------|----------------------------------------------------------------|
| <b>ggggggggg</b> | - Line Coding Violation Daily NE threshold (0 to 134217727)    |
| <b>ggggggg</b>   | - Line Coding Violation 15Min NE threshold (0 to 2097151)      |
| <b>g</b>         | - Line Coding Violation Daily NE option selection (0 to 3)     |
| <b>g</b>         | - Line Coding Violation 15Min NE option selection (0 to 3)     |
| <b>g</b>         | - Line Coding Violation Daily NE option old selection (0 to 3) |
| <b>g</b>         | - Line Coding Violation 15Min NE option old selection (0 to 3) |

ESL (Line Errored Seconds)

|              |                                                               |
|--------------|---------------------------------------------------------------|
| <b>hhhhh</b> | - Line Errored Seconds Daily NE threshold (0 to 86400)        |
| <b>ppppp</b> | - Line Errored Seconds Daily FE threshold (0 to 86400)        |
| <b>hhh</b>   | - Line Errored Seconds 15Min NE threshold (0 to 900)          |
| <b>ppp</b>   | - Line Errored Seconds 15Min FE threshold (0 to 900)          |
| <b>h</b>     | - Line Errored Seconds Daily NE option selection (0 to 3)     |
| <b>p</b>     | - Line Errored Seconds Daily FE option selection (0 to 3)     |
| <b>h</b>     | - Line Errored Seconds 15Min NE option selection (0 to 3)     |
| <b>p</b>     | - Line Errored Seconds 15Min FE option selection (0 to 3)     |
| <b>h</b>     | - Line Errored Seconds Daily NE option old selection (0 to 3) |
| <b>p</b>     | - Line Errored Seconds Daily FE option old selection (0 to 3) |
| <b>h</b>     | - Line Errored Seconds 15Min NE option old selection (0 to 3) |
| <b>p</b>     | - Line Errored Seconds 15Min FE option old selection (0 to 3) |

# SESL (Line Severely Errored Seconds)

- iiiiii** - Line Severely Errored Seconds Daily NE threshold (0 to 86400)
- iii** - Line Severely Errored Seconds 15Min NE threshold (0 to 900)
- i** - Line Severely Errored Seconds Daily NE option selection (0 to 3)
- i** - Line Severely Errored Seconds 15Min NE option selection (0 to 3)
- i** - Line Severely Errored Seconds Daily NE option old selection (0 to 3)
- i** - Line Severely Errored Seconds 15Min NE option old selection (0 to 3)

**ss/n** - First improper values of "rr/m" for which message is denied.

**cc** - Hexadecimal condition code

## **cc** *Explanation*

- 02** Subject entity is not equipped
- 10** Unit is not equipped
- 11** UC is out of service
- 12** UC is in service but failed
- 13** FTMI is not equipped
- 20** Option rr/m has not been set up on 2nd database
- 21** Minor >= major for SLIP opt
- 22** Minor <= major for BER opt
- 23** Minor >= major for COFA opt
- 26** NPC type error
- 29** IW is UMUX (18) but NPC not type DE4yz
- 2A** DMI combined with T1DM
- 2B** Maj|Min BER threshold is 7, but not in T1DM or Fe mode
- 4F** BER must not be less than 4 for Clear DS1
- 83** Option not programmable for this NPC type
- B5** NPC is a test port
- 44** Service MXR is not equipped
- 0A** Minor Slip threshold disabled before Major Slip threshold
- 32** Threshold value is out of range

## **CHG,NPC,RT,DL,TYPE,OPTS**

### **CHANGE OPTIONS**

#### **Explanation Of Command**

This command changes facility threshold values for one or more Network Processing Circuits (NPCs) of a particular type or SLC® bank without disconnecting and reconnecting provisioned circuits.

#### **Command**

##### **Nonhierarchical**

[I.38241]

```
CHG:FRM xy,SEQ ww:{NPC [s]abc|RT ffff|DL ffff|TYPE mnxyz},\  
OPTS(rr/m[,rr/m,...])!
```

##### **Hierarchical**

[I.38241]

```
CHG:FRM xy,SEQ ww:{NPC uvmnp|RT ffff|DL ffff|TYPE mnxyz},\  
OPTS(rr/m[,rr/m,...])!
```

## Completion Message

### Nonhierarchical

[O.38241]

```
M hh:mm:ss xy,ww n[vv] CHG \
{NPC [s]abc|RT ffff|DL ffff|TYPE mnxyz}[ IW pq] 5 LN MSG:
      SLIP      BER  ERS      SERS COFA      [SANE]  \
[SAFE]
THRESHOLDS      mmm nnn  p q  rrrrr  sss  ttt uuu  [xxxxx]  \
[zzzzz]
OPTIONS          e  f  g h          i  j  k  l          [m]  \
[n]
[OLD OPTIONS      s  t  u v          w  x  y  z          [b]  \
[c]]  COMPL
```

For ANSI (DA and TA type) NPCs:

[O.38242]

```
M hh:mm:ss xy,ww n[vv] CHG {NPC [s]abc|TYPE mnxyz}[ IW pq] 5 LN MSG:
DAILY NE      CVP      ESP  SESP  SEFS  CSS  UAS  CVL      ESL  SESL
THRESHOLDS  aaaaaaaaaa bbbbbb ccccc ddddd eeeee fffff gggggggggg hhhhh iiiii
OPTIONS      a          b  c  d  e  f  g  h  i
OLD OPTIONS  á          ß  ć  đ  é  f  g  ħ  í  EOM
```

```
M hh:mm:ss xy,ww n[vv] CHG {NPC [s]abc|TYPE mnxyz}[ IW pq] 5 LN MSG:
DAILY FE      CVP      ESP  SESP  SEFS  CSS  UAS  ESL
THRESHOLDS  jjjjjjjjj kkkkk lllll mmmmm nnnnn ooooo ppppp
OPTIONS      j          k  l  m  n  o  p
OLD OPTIONS  j          k  l  ŋ  ħ  ó  þ  EOM
```

```
M hh:mm:ss xy,ww n[vv] CHG {NPC [s]abc|TYPE mnxyz}[ IW pq] 5 LN MSG:
15MIN NE      CVP      ESP  SESP  SEFS  CSS  UAS  CVL      ESL  SESL
THRESHOLDS  aaaaaaa bbb ccc ddd eee fff ggggggg hhh iii
OPTIONS      a          b c d e f g h i
OLD OPTIONS  á          ß ć đ é f g ħ í  EOM
```

```
M hh:mm:ss xy,ww n[vv] CHG {NPC [s]abc|TYPE mnxyz}[ IW pq] 5 LN MSG:
15MIN FE      CVP      ESP  SESP  SEFS  CSS  UAS  ESL
THRESHOLDS  jjjjjjj kkk lll mmm nnn ooo ppp
OPTIONS      j          k l m n o p
OLD OPTIONS  j          k l ŋ ħ ó þ  COMPL
```

## Hierarchical

[O.38241]

```
M hh:mm:ss xy,ww n[vv] CHG {NPC uvmnp|RT ffff|DL ffff|TYPE mnxyz}\
[ IW pq] 5 LN MSG:
          SLIP      BER  ERS      SERS COFA      [SANE]  \
[SAFE]
THRESHOLDS      mmm nnn  p q  rrrrr  sss  ttt uuu  [xxxxx]  \
[zzzzz]
OPTIONS          e  f  g  h          i  j  k  l          [m]  \
[n]
[OLD OPTIONS      s  t  u  v          w  x  y  z          [b]  \
[c]] COMPL
```

For ANSI (DA and TA type) NPCs:

[O.38242]

```
M hh:mm:ss xy,ww n[vv] CHG {NPC uvmnp|TYPE mnxyz}[ IW pq] 5 LN MSG:
DAILY NE      CVP      ESP  SESP  SEFS  CSS  UAS  CVL      ESL  SESL
THRESHOLDS  aaaaaaaaaa bbbbbb ccccc ddddd eeeee fffff gggggggggg hhhhh iiiii
OPTIONS      a          b  c  d  e  f  g          h  i
OLD OPTIONS  á          ß  ć  đ  é  f  g          ħ  í      EOM
```

```
M hh:mm:ss xy,ww n[vv] CHG {NPC uvmnp|TYPE mnxyz}[ IW pq] 5 LN MSG:
DAILY FE      CVP      ESP  SESP  SEFS  CSS  UAS  ESL
THRESHOLDS  jjjjjjjjjj kkkkk lllll mmmmm nnnnn ooooo ppppp
OPTIONS      j          k  l  m  n  o  p
OLD OPTIONS  j          k  l  ŋ  ŋ  ó  p      EOM
```

```
M hh:mm:ss xy,ww n[vv] CHG {NPC uvmnp|TYPE mnxyz}[ IW pq] 5 LN MSG:
15MIN NE      CVP      ESP  SESP  SEFS  CSS  UAS  CVL      ESL  SESL
THRESHOLDS  aaaaaaa bbb ccc ddd eee fff ggggggg hhh iii
OPTIONS      a          b c d e f g          h i
OLD OPTIONS  á          ß ć đ é f g          ħ í      EOM
```

```
M hh:mm:ss xy,ww n[vv] CHG {NPC uvmnp|TYPE mnxyz}[ IW pq] 5 LN MSG:
15MIN FE      CVP      ESP  SESP  SEFS  CSS  UAS  ESL
THRESHOLDS  jjjjjjj kkk lll mmm nnn ooo ppp
OPTIONS      j          k l m n o p
OLD OPTIONS  j          k l ŋ ŋ ó p      COMPL
```

## **Denial Message**

---

### **Nonhierarchical**

---

[O.38241.01]

```
M hh:mm:ss xy,ww n[vv] CHG \  
{NPC [s]abc|RT ffff|DL ffff|TYPE mnxyz}[ TYPE mnxyz]\  
[ ss/n] COND cc DNY
```

### **Hierarchical**

---

[O.38241.01]

```
M hh:mm:ss xy,ww n[vv] CHG \  
{NPC uvmnp|RT ffff|DL ffff|TYPE mnxyz}\  
[ TYPE mnxyz][ ss/n] COND cc DNY
```

## **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

---

Each facility performance parameter of an NPC may have up to three user-selectable threshold values stored in the DACS II data base. The CHG::SETOP (ED-OPT-T1 for MML format) command programs these values in the DACS II data base. Threshold values are provisioned on particular NPCs through the use of the indices rr and m following the options keyword of this command. Variable rr identifies the parameter, and m selects one of the four stored threshold values for that parameter from the DACS II data base. More than one parameter can be changed with a single command by following the first rr/m pair with a list of similarly formed parameter/index pairs for each additional parameter. Unspecified options in this command retain their previous values.

Note that if the option of RT(DL) ffff is specified in the input command, all of the digroups belonging to that RT(DL) will be affected by the command.

For the MML format, the NPC-[s]abc keyword and argument may be omitted in the output response if any of the following are specified on input: TYPE-mnxyz, RT-ffff, or DL-ffff. The CHG function is then performed on all NPCs with the given TYPE, or from the same bank which had the same set of OLD options. The first (lowest numbered) NPC with the given TYPE will determine the class of NPCs affected by the CHG command.



**NPC** - Network processing circuit  
**[s]abc** - The 3- or 4-digit nonhierarchical NPC number  
 The valid numbers are:

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                              |                              |                              |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The allowable values are as below:

DE, DS, and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**RT** - Remote terminal  
**DL** - Digital carrier line unit (DCLU)  
**ffff** - Bank identification number (0000 through 9999)  
**TYPE** - Type  
**mxyz** - NPC type

*mxyz Explanation*

DExyz Enhanced Digroup NPC  
DSxyz SLC® Carrier Digroup NPC  
TExyz DS3U DS1 NPC  
DAxyz FTU DS1 ANSI NPC type  
TAxyz DS3U DS1 ANSI NPC type

DE-type xyz fields

**x** - Multiframe format for the digroup

**x** *Explanation*

**0** Not assigned

**1** D4

**2** ESF - Voice

**3** ESF - Data

**4** DDST (T1DM - R bit connection via channel 24)

**5-7** Not assigned

**8** Ericsson Cellular format

**9** No framing format, transparent (TRSP), clear-DS1

**y** - Line and signaling format

**y** *Explanation*

**0** ZCS - Zero code suppression

**1\*** NZCS - No zero code suppression

**2\*** B8ZS - Bipolar with 8 zero substitution

**3†** ZBTST - Zero-bit time-slot interchanger

**4** ZCS/DMI - Zero code suppression/DMI signaling

**5** NZCS/DMI - No zero code suppression/DMI signaling

**6** B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling

**7-9** Not assigned

\* Only options 1 and 2 are applicable to DE-type clear-DS1 NPC.

† Only valid with ESF (x = 2 or 3)

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format

**z** *Explanation*

**0** D4 channel bank channel numbering

**1** D2 channel bank channel numbering

**2** D1D channel bank channel numbering

**3-8** Not assigned

**9** No channel numbering format, clear-DS1

DS-type xyz fields

**x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>               |
|------------|----------------------------------|
| <b>0</b>   | Not assigned                     |
| <b>1</b>   | D4                               |
| <b>2</b>   | ESF - Voice                      |
| <b>3</b>   | Not assigned                     |
| <b>4</b>   | Not assigned                     |
| <b>5</b>   | Not assigned                     |
| <b>6</b>   | SLC® 96 carrier Fs               |
| <b>7</b>   | SLC 5 carrier ESF with data link |
| <b>8-9</b> | Not assigned                     |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                      |
|------------|-----------------------------------------|
| <b>0</b>   | Zero code suppression (ZCS)             |
| <b>1</b>   | No zero code suppression (NZCS)         |
| <b>2</b>   | Bipolar with 8 zero substitution (B8ZS) |
| <b>3-9</b> | Not assigned                            |

**z** - Counting sequence format

| <b>z</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | SLC 96 carrier Mode III D4 counting sequence  |
| <b>1</b>   | SLC 96 carrier Mode III D1D counting sequence |
| <b>2</b>   | SLC 96 carrier Mode I D1D counting sequence   |
| <b>3</b>   | SLC Series 5 carrier D4 counting sequence     |
| <b>4-9</b> | Not assigned                                  |

DA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                        |
|------------|-----------------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                               |
| <b>1*</b>  | NZCS - No zero code suppression                           |
| <b>2*</b>  | B8ZS - Bipolar with 8 zero substitution                   |
| <b>3</b>   | Not assigned                                              |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling             |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling         |
| <b>6</b>   | B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling |
| <b>7-9</b> | Not assigned                                              |

\* Only options 1 and 2 are applicable to DA-type clear-DS1 NPC.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering                |
| <b>1</b>   | D2 channel bank channel numbering                |
| <b>2</b>   | D1D channel bank channel numbering               |
| <b>3-8</b> | Not assigned                                     |
| <b>9</b>   | Unchannelized 193-bit Clear DS1 Cross-connection |

DA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a DA NPC with both a valid framing format (D4, ESF, T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the DA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II FTU, the NPC must be provisioned as NPC type **DE9y9**.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the DA NPC type. If ZBTSI is desired on an NPC in a DACS II FTU, the NPC must be provisioned as a DE NPC type with its **y** option selecting ZBTSI (**DEx3z**).

#### TA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                |
|------------|---------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                       |
| <b>1*</b>  | NZCS - No zero code suppression                   |
| <b>2</b>   | Not assigned                                      |
| <b>3</b>   | Not assigned                                      |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling     |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling |
| <b>6-9</b> | Not assigned                                      |

\* Only option 1 is applicable to TA-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering                |
| <b>1</b>   | D2 channel bank channel numbering                |
| <b>2</b>   | D1D channel bank channel numbering               |
| <b>3-8</b> | Not assigned                                     |
| <b>9</b>   | Unchannelized 193-bit Clear DS1 Cross-connection |

TA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a TA NPC with both a valid framing format (D4,ESF,T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the TA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as NPC type TE919.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the TA NPC type. If ZBTSI is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as a TE NPC type with its **y** option selecting ZBTSI (**TEx3z**).

## TE-type xyz fields

**x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | Not assigned                                     |
| <b>1</b>   | D4                                               |
| <b>2</b>   | ESF - Voice                                      |
| <b>3</b>   | ESF - Data                                       |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24)    |
| <b>5-7</b> | Not assigned                                     |
| <b>8</b>   | Ericsson Cellular format                         |
| <b>9</b>   | No framing format, transparent (TRSP), clear-DS1 |



**y** - Line and signaling format

**y**      *Explanation*

**0**      ZCS - Zero code suppression

**1\***     NZCS - No zero code suppression

**2**      Not assigned

**3**      Not assigned

**4**      ZCS/DMI - Zero code suppression/DMI signaling

**5**      NZCS/DMI - No zero code suppression/DMI signaling

**6-9**   Not assigned

\* Only option 1 is applicable to TE-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format

**z**      *Explanation*

**0**      D4 channel bank channel numbering

**1**      D2 channel bank channel numbering

**2**      D1D channel bank channel numbering

**3-8**   Not assigned

**9**      No channel numbering format, clear-DS1

**OPTS** - Options

**rr** - Facility performance parameter number

Variable rr specifies the parameter whose alarm threshold is being selected.

**m** - Facility performance parameter threshold index (0 through 3)

Variable m is used to select threshold values previously programmed for rr. The default threshold value, the value selected by m=0, for each parameter is shown in the table below under the column heading "Default Threshold Value". Threshold values selected by m=1 through m=3 must exist; that is, must have been programmed prior to being selected. The non-default thresholds can be set by using the CHG::SETOP (I.38201) command. Thresholds of all unspecified parameters will be set to the default value associated with m=0. The options field must not be given without the NPC type field.

Clear-DS1 ANSI NPCs (DAxy9/TAxy9) provide the same set of path and line performance monitoring parameters that are provided by terminated ANSI NPC types. ANSI NPCs in DS3 Units (TAxyz) do not provide near-end DS1 line performance monitoring parameters.

For DE type NPCs, parameters with values rr = 1 through 8 are valid.  
For DS type NPCs, parameters with values rr = 1 through 10 are valid.  
For TE type NPCs, parameters with values rr = 1 through 8 are valid.  
For Clear-DS1 DE type NPCs, parameters with values rr = 1 through 4 are valid.  
For Clear-DS1 TE type NPCs, parameters with values rr = 1 through 2 are valid.

| rr | Parameter                             | Threshold<br>Value<br>Range | Default<br>Threshold<br>Value |
|----|---------------------------------------|-----------------------------|-------------------------------|
| 01 | Slip major                            | 000 to 255                  | 255                           |
| 02 | Slip minor                            | 000 to 255                  | 4                             |
| 03 | Bit Error Rate major                  | 1E-3* to 1E-6 <sup>†</sup>  | 1E-3*                         |
| 04 | Bit Error Rate minor                  | 1E-3* to 1E-6 <sup>†</sup>  | 1E-6                          |
| 05 | Errored Seconds <sup>‡</sup>          | 00001 to 65535              | 864                           |
| 06 | Severely Errored Seconds <sup>‡</sup> | 001 to 255                  | 225                           |
| 07 | Change of Frame Alignment major       | 001 to 511                  | 511                           |
| 08 | Change of Frame Alignment minor       | 001 to 255                  | 17                            |
| 09 | Shelf Alarm Near End(SANE)§           | 00001 to 65535              | 00000                         |
| 10 | Shelf Alarm Far End(SAFE)§            | 00001 to 65535              | 00000                         |

\* 4 for clear-DS1 NPCs or DS type NPCs (default)

<sup>†</sup> 7 on DE or TE type NPCs using T1DM (x = 4) or ESF (x = 2 or 3) framing

<sup>‡</sup> Only applicable to DE or TE type NPCs using T1DM (x = 4) or ESF (x = 2 or 3) framing

§ Applicable only to DS type NPCs

**Note 1:** Major thresholds must be greater than minor thresholds.

**Note 2:** For Bit Error Rates, enter only the power of 10 (DACS assumes its sign is negative). For example, for a BER of  $10^{-3}$  (.001), enter 3.

**Note 3:** Slip major and Slip minor threshold crossing alarms may be disabled by programming threshold values of zero for the respective parameters.

For Channelized and Clear-DS1 DA type NPCs with ESF framing, all of the following Near-end and Far-end parameters are valid.

For Channelized and Clear-DS1 DA type NPCs with D4 or T1DM framing, all of the following Near-end parameters are valid, but the only valid Far-end parameter is Unavailable Seconds (rr = 55,71).

For Channelized and Clear-DS1 TA type NPCs with ESF framing, all of the following Near-end Path parameters are valid, but the Near-End Line parameters (rr = 47-49, 63-65) are invalid. All of the following Far-end parameters are valid.

For Channelized and Clear-DS1 TA type NPCs with D4 or T1DM framing, the following Near-end Path parameters are valid, but the Near-End Line parameters (rr = 47-49, 63-65) are invalid. The only valid Far-end parameter is Unavailable Seconds (rr = 55,71).

| rr | Parameter                                           | Threshold Value Range  | Default Threshold Value |
|----|-----------------------------------------------------|------------------------|-------------------------|
| 41 | Daily Near-end Path Coding Violations               | 000000000 to 134217727 | 132960 <sup>†</sup>     |
| 42 | Daily Near-end Path Errored Seconds                 | 00000 to 86400         | 648                     |
| 43 | Daily Near-end Path Severely Errored Seconds        | 00000 to 86400         | 100                     |
| 44 | Daily Near-end Severely Errored Framing Seconds     | 00000 to 86400         | 17                      |
| 45 | Daily Near-end Controlled Slip Seconds              | 00000 to 86400         | 4                       |
| 46 | Daily Near-end Unavailable Seconds                  | 00000 to 86400         | 10                      |
| 47 | Daily Near-end Line Coding Violations               | 000000000 to 134217727 | 133400                  |
| 48 | Daily Near-end Line Errored Seconds                 | 00000 to 86400         | 648                     |
| 49 | Daily Near-end Line Severely Errored Seconds        | 00000 to 86400         | 100                     |
| 50 | Daily Far-end Path Coding Violations                | 000000000 to 134217727 | 132960 <sup>†</sup>     |
| 51 | Daily Far-end Path Errored Seconds                  | 00000 to 86400         | 648                     |
| 52 | Daily Far-end Path Severely Errored Seconds         | 00000 to 86400         | 100                     |
| 53 | Daily Far-end Severely Errored Framing Seconds      | 00000 to 86400         | 17                      |
| 54 | Daily Far-end Controlled Slip Seconds               | 00000 to 86400         | 4                       |
| 55 | Daily Far-end Unavailable Seconds                   | 00000 to 86400         | 10                      |
| 56 | Daily Far-end Line Errored Seconds                  | 00000 to 86400         | 648                     |
| 57 | 15-Minute Near-end Path Coding Violations           | 0000000 to 2097151     | 13296 <sup>†</sup>      |
| 58 | 15-Minute Near-end Path Errored Seconds             | 000 to 900             | 65                      |
| 59 | 15-Minute Near-end Path Severely Errored Seconds    | 000 to 900             | 10                      |
| 60 | 15-Minute Near-end Severely Errored Framing Seconds | 000 to 900             | 2                       |
| 61 | 15-Minute Near-end Controlled Slip Seconds          | 000 to 900             | 1                       |
| 62 | 15-Minute Near-end Unavailable Seconds              | 000 to 900             | 10                      |
| 63 | 15-Minute Near-end Line Coding Violations           | 0000000 to 2097151     | 13340                   |
| 64 | 15-Minute Near-end Line Errored Seconds             | 000 to 900             | 65                      |
| 65 | 15-Minute Near-end Line Severely Errored Seconds    | 000 to 900             | 10                      |
| 66 | 15-Minute Far-end Path Coding Violations            | 0000000 to 2097151     | 13296 <sup>†</sup>      |
| 67 | 15-Minute Far-end Path Errored Seconds              | 000 to 900             | 65                      |
| 68 | 15-Minute Far-end Path Severely Errored Seconds     | 000 to 900             | 10                      |

|           |                                                    |            |    |
|-----------|----------------------------------------------------|------------|----|
| <b>69</b> | 15-Minute Far-end Severely Errored Framing Seconds | 000 to 900 | 2  |
| <b>70</b> | 15-Minute Far-end Controlled Slip Seconds          | 000 to 900 | 1  |
| <b>71</b> | 15-Minute Far-end Unavailable Seconds              | 000 to 900 | 10 |
| <b>72</b> | 15-Minute Far-end Line Errored Seconds             | 000 to 900 | 65 |

<sup>†</sup> The value shown applies to ESF framing and is a count of CRC errors. When the DS1 has D4 or T1DM framing, framing errors are counted and the default Daily value is 691.

<sup>‡</sup> The value shown applies to ESF framing and is a count of CRC errors. When the DS1 has D4 or T1DM framing, framing errors are counted and the default 15-Minute value is 72.

Note that IW pq as well as the last line of the output message only appears if NPC ... is used in the input message. Also note that the actual data will be printed only for those rrs that are entered on the input message. The rest of the columns will be filled with dashes (---).

**pq** - Hexadecimal value of the disconnect code (DCC) or idle code.

This value is inserted in the transmit direction on unassigned channels. Insertion word is not allowed for Clear-DS1 NPCs; the all ones signal is transmitted for an idle Clear-DS1 NPC. Thus, information about the disconnect code will not appear for any message involving a Clear-DS1 type NPC. Although any hexadecimal value may be assigned, the following are some commonly used values:

| <i>pq</i> | <i>Explanation</i>                                                                                                                                                                  |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7F        | UAC (unassigned channel code), the default value                                                                                                                                    |
| 18        | UMC (unassigned multiplex code), should only be used with type DE4yz, TE4yz, DA4yz, and TA4yz, for a T1DM formatted facility. The growth command does not enforce this restriction. |
| FF        | Per channel all ones code, needed for not connected channels in SLC carrier and CPI applications.                                                                                   |

|             |                             |
|-------------|-----------------------------|
| <b>SLIP</b> | - Timing slip               |
| <b>BER</b>  | - Bit error rate            |
| <b>ERS</b>  | - Errored seconds           |
| <b>SERS</b> | - Severely errored seconds  |
| <b>COFA</b> | - Change of frame alignment |
| <b>SANE</b> | - Shelf alarm near end      |
| <b>SAFE</b> | - Shelf alarm far end       |

## SLIP

- mmm** - Slip major alarm threshold (0 through 255)
- nnn** - Slip minor alarm threshold (0 through 255)
- e** - Slip major alarm option selection (0 through 3)
- s** - Slip major alarm option old selection (0 through 3)
- f** - Slip minor alarm option selection (0 through 3)
- t** - Slip minor alarm option old selection (0 through 3)

## BER (Bit Error Rate)

- p** - BER major alarm threshold,  $(1E-p, 3^{\dagger} \leq p \leq 6^*)$
- q** - BER minor alarm threshold,  $(1E-q, 3^{\dagger} \leq q \leq 6^*)$   
  - \* 7 on T1DM and Fe framing
  - <sup>†</sup> 4 for DE type clear-DS1 or DS type NPCs
- g** - BER major alarm option selection (0 through 3)
- u** - BER major alarm option old selection (0 through 3)
- h** - BER minor alarm option selection (0 through 3)
- v** - BER minor alarm option old selection (0 through 3)

## ERS (Errored Seconds)

- rrrrr** - ERS threshold (1 through 65535)
- i** - ERS option selection (0 through 3)
- w** - ERS option old selection (0 through 3)

## SERS (Severely Errored Seconds)

- sss** - SERS threshold (1 through 255)
- j** - SERS option selection (0 through 3)
- x** - SERS option old selection (0 through 3)

## COFA (Change of Frame Alignment)

- ttt** - COFA major alarm threshold (1 through 511)
- uuu** - COFA minor alarm threshold (1 through 255)
- k** - COFA major alarm option selection (0 through 3)
- y** - COFA major alarm option old selection (0 through 3)
- l** - COFA minor alarm option selection (0 through 3)
- z** - COFA minor alarm option old selection (0 through 3)

## SANE (Shelf Alarm Near End)

- xxxxx** - SANE threshold (0 through 65535)
- m** - SANE option selection (0 through 3)
- b** - SANE option old selection (0 through 3)

# SAFE (Shelf Alarm Far End)

**zzzzz** - SAFE threshold (0 through 65535)  
**n** - SAFE option selection (0 through 3)  
**c** - SAFE option old selection (0 through 3)

**Note:** Major thresholds may not be equal to minor thresholds, except for the BER threshold of SLC® 96 carrier NPCs. For DE type clear-DS1 NPCs only SLIP and BER parameters are listed. For TE type clear-DS1 DS3U NPCs only SLIP parameters are listed. Both SANE and SAFE are only applicable to SLC 96 carrier NPCs.

For ANSI NPC types:

**CVP** - Path coding violations  
**ESP** - Path errored seconds  
**SESP** - Path severely errored seconds  
**SEFS** - Severely errored framing seconds  
**CSS** - Controlled slip seconds  
**UAS** - Unavailable seconds  
**CVL** - Line coding violations  
**ESL** - Line errored seconds  
**SESL** - Line severely errored seconds

# CVP (Path Coding Violations)

**aaaaaaaa** - Path Coding Violation Daily NE threshold (0 to 134217727)  
**jjjjjjjj** - Path Coding Violation Daily FE threshold (0 to 134217727)  
**aaaaaaa** - Path Coding Violation 15Min NE threshold (0 to 2097151)  
**jjjjjjj** - Path Coding Violation 15Min FE threshold (0 to 2097151)  
**a** - Path Coding Violation Daily NE option selection (0 to 3)  
**j** - Path Coding Violation Daily FE option selection (0 to 3)  
**a** - Path Coding Violation 15Min NE option selection (0 to 3)  
**j** - Path Coding Violation 15Min FE option selection (0 to 3)  
**a** - Path Coding Violation Daily NE option old selection (0 to 3)  
**j** - Path Coding Violation Daily FE option old selection (0 to 3)  
**a** - Path Coding Violation 15Min NE option old selection (0 to 3)  
**j** - Path Coding Violation 15Min FE option old selection (0 to 3)

### ESP (Path Errored Seconds)

**bbbb** - Path Errored Seconds Daily NE threshold (0 to 86400)  
**kkkk** - Path Errored Seconds Daily FE threshold (0 to 86400)  
**bbb** - Path Errored Seconds 15Min NE threshold (0 to 900)  
**kkk** - Path Errored Seconds 15Min FE threshold (0 to 900)  
**b** - Path Errored Seconds Daily NE option selection (0 to 3)  
**k** - Path Errored Seconds Daily FE option selection (0 to 3)  
**b** - Path Errored Seconds 15Min NE option selection (0 to 3)  
**k** - Path Errored Seconds 15Min FE option selection (0 to 3)  
**b** - Path Errored Seconds Daily NE option old selection (0 to 3)  
**k** - Path Errored Seconds Daily FE option old selection (0 to 3)  
**b** - Path Errored Seconds 15Min NE option old selection (0 to 3)  
**k** - Path Errored Seconds 15Min FE option old selection (0 to 3)

### SESP (Path Severely Errored Seconds)

**cccc** - Path Severely Errored Seconds Daily NE threshold (0 to 86400)  
**llll** - Path Severely Errored Seconds Daily FE threshold (0 to 86400)  
**ccc** - Path Severely Errored Seconds 15Min NE threshold (0 to 900)  
**lll** - Path Severely Errored Seconds 15Min FE threshold (0 to 900)  
**c** - Path Severely Errored Seconds Daily NE option selection (0 to 3)  
**l** - Path Severely Errored Seconds Daily FE option selection (0 to 3)  
**c** - Path Severely Errored Seconds 15Min NE option selection (0 to 3)  
**l** - Path Severely Errored Seconds 15Min FE option selection (0 to 3)  
**c** - Path Severely Errored Seconds Daily NE option old selection (0 to 3)  
**l** - Path Severely Errored Seconds Daily FE option old selection (0 to 3)  
**c** - Path Severely Errored Seconds 15Min NE option old selection (0 to 3)  
**l** - Path Severely Errored Seconds 15Min FE option old selection (0 to 3)

### SEFS (Severely Errored Framing Seconds)

**dddd** - Severely Errored Framing Seconds Daily NE threshold (0 to 86400)  
**mmmm** - Severely Errored Framing Seconds Daily FE threshold (0 to 86400)  
**ddd** - Severely Errored Framing Seconds 15Min NE threshold (0 to 900)  
**mmm** - Severely Errored Framing Seconds 15Min FE threshold (0 to 900)  
**d** - Severely Errored Framing Seconds Daily NE option selection (0 to 3)  
**m** - Severely Errored Framing Seconds Daily FE option selection (0 to 3)  
**d** - Severely Errored Framing Seconds 15Min NE option selection (0 to 3)  
**m** - Severely Errored Framing Seconds 15Min FE option selection (0 to 3)  
**d** - Severely Errored Framing Seconds Daily NE option old selection (0 to 3)  
**m** - Severely Errored Framing Seconds Daily FE option old selection (0 to 3)  
**d** - Severely Errored Framing Seconds 15Min NE option old selection (0 to 3)  
**m** - Severely Errored Framing Seconds 15Min FE option old selection (0 to 3)



CSS (Controlled Slip Seconds)

|               |                                                                  |
|---------------|------------------------------------------------------------------|
| <b>eeeeee</b> | - Controlled Slip Seconds Daily NE threshold (0 to 86400)        |
| <b>nnnnn</b>  | - Controlled Slip Seconds Daily FE threshold (0 to 86400)        |
| <b>eee</b>    | - Controlled Slip Seconds 15Min NE threshold (0 to 900)          |
| <b>nnn</b>    | - Controlled Slip Seconds 15Min FE threshold (0 to 900)          |
| <b>e</b>      | - Controlled Slip Seconds Daily NE option selection (0 to 3)     |
| <b>n</b>      | - Controlled Slip Seconds Daily FE option selection (0 to 3)     |
| <b>e</b>      | - Controlled Slip Seconds 15Min NE option selection (0 to 3)     |
| <b>n</b>      | - Controlled Slip Seconds 15Min FE option selection (0 to 3)     |
| <b>e</b>      | - Controlled Slip Seconds Daily NE option old selection (0 to 3) |
| <b>n</b>      | - Controlled Slip Seconds Daily FE option old selection (0 to 3) |
| <b>e</b>      | - Controlled Slip Seconds 15Min NE option old selection (0 to 3) |
| <b>n</b>      | - Controlled Slip Seconds 15Min FE option old selection (0 to 3) |

UAS (Unavailable Seconds)

|              |                                                              |
|--------------|--------------------------------------------------------------|
| <b>fffff</b> | - Unavailable Seconds Daily NE threshold (0 to 86400)        |
| <b>ooooo</b> | - Unavailable Seconds Daily FE threshold (0 to 86400)        |
| <b>fff</b>   | - Unavailable Seconds 15Min NE threshold (0 to 900)          |
| <b>ooo</b>   | - Unavailable Seconds 15Min FE threshold (0 to 900)          |
| <b>f</b>     | - Unavailable Seconds Daily NE option selection (0 to 3)     |
| <b>o</b>     | - Unavailable Seconds Daily FE option selection (0 to 3)     |
| <b>f</b>     | - Unavailable Seconds 15Min NE option selection (0 to 3)     |
| <b>o</b>     | - Unavailable Seconds 15Min FE option selection (0 to 3)     |
| <b>f</b>     | - Unavailable Seconds Daily NE option old selection (0 to 3) |
| <b>o</b>     | - Unavailable Seconds Daily FE option old selection (0 to 3) |
| <b>f</b>     | - Unavailable Seconds 15Min NE option old selection (0 to 3) |
| <b>o</b>     | - Unavailable Seconds 15Min FE option old selection (0 to 3) |

CVL (Line Coding Violations)

|                  |                                                                |
|------------------|----------------------------------------------------------------|
| <b>ggggggggg</b> | - Line Coding Violation Daily NE threshold (0 to 134217727)    |
| <b>ggggggg</b>   | - Line Coding Violation 15Min NE threshold (0 to 2097151)      |
| <b>g</b>         | - Line Coding Violation Daily NE option selection (0 to 3)     |
| <b>g</b>         | - Line Coding Violation 15Min NE option selection (0 to 3)     |
| <b>g</b>         | - Line Coding Violation Daily NE option old selection (0 to 3) |
| <b>g</b>         | - Line Coding Violation 15Min NE option old selection (0 to 3) |

### ESL (Line Errored Seconds)

**hhhhh** - Line Errored Seconds Daily NE threshold (0 to 86400)  
**ppppp** - Line Errored Seconds Daily FE threshold (0 to 86400)  
**hhh** - Line Errored Seconds 15Min NE threshold (0 to 900)  
**ppp** - Line Errored Seconds 15Min FE threshold (0 to 900)  
**h** - Line Errored Seconds Daily NE option selection (0 to 3)  
**p** - Line Errored Seconds Daily FE option selection (0 to 3)  
**h** - Line Errored Seconds 15Min NE option selection (0 to 3)  
**p** - Line Errored Seconds 15Min FE option selection (0 to 3)  
**h** - Line Errored Seconds Daily NE option old selection (0 to 3)  
**p** - Line Errored Seconds Daily FE option old selection (0 to 3)  
**h** - Line Errored Seconds 15Min NE option old selection (0 to 3)  
**p** - Line Errored Seconds 15Min FE option old selection (0 to 3)

### SESL (Line Severely Errored Seconds)

**iiiiii** - Line Severely Errored Seconds Daily NE threshold (0 to 86400)  
**iii** - Line Severely Errored Seconds 15Min NE threshold (0 to 900)  
**i** - Line Severely Errored Seconds Daily NE option selection (0 to 3)  
**i** - Line Severely Errored Seconds 15Min NE option selection (0 to 3)  
**i** - Line Severely Errored Seconds Daily NE option old selection (0 to 3)  
**i** - Line Severely Errored Seconds 15Min NE option old selection (0 to 3)

ss/n - First improper values of "rr/m" for which message is denied.

**cc** - Hexadecimal condition code

#### **cc** *Explanation*

**02** Subject entity is not equipped  
**10** Unit is not equipped  
**11** UC is out of service  
**12** UC is in service but failed  
**13** FTMI is not equipped  
**20** Option rr/m has not been set up on 2nd database  
**21** Minor >= major for SLIP opt  
**22** Minor <= major for BER opt  
**23** Minor >= major for COFA opt  
**26** NPC type error  
**29** IW is UMUX (18) but NPC not type DE4yz  
**2A** DMI combined with T1DM  
**2B** Maj|Min BER threshold is 7, but not in T1DM or Fe mode  
**7E** Bank id number not found  
**83** Option not programmable for this NPC type  
**1A** The facility parameter not programmable for specified x or z parameter

**cc**    *Explanation*

- 0A**    Minor Slip threshold disabled before Major Slip threshold
- 32**    Threshold value is out of range

## **CHG,NPC,TYPE,IW,X,INCL**

### **CHANGE NPC TYPE**

#### **Explanation Of Command**

This command is used to change the type and, optionally, the insertion word of a specified network processing Circuit (NPC) equipped in a facility terminating unit (FTU). The insertion word field is used to change the NPC's disconnect code (DCC). These changes may be made without disconnecting and reconnecting the provisioned circuits, but the NPC must be out of service when this command is executed.

Permissible type changes depend upon the digroup card in use. For NPCs provisioned on the DACS II Enhanced Dual Digroup Card (TG191-EDDC), the **mn**, **x**, and **y** values of the NPC TYPE may be changed if the NPC is out of service. This feature makes use of the flexibility of the TG191 circuit pack. The **z** value must not be changed from the value entered when the NPC was provisioned.

For NPCs provisioned on other DACS II Dual Digroup Cards, only the **x** and **y** values of the NPC TYPE may be changed with this command. The **mn** and **z** values must not be changed from the values entered in the NPC provisioning command.

The **z** value specifies the NPC's channel numbering format. The channel numbering format cannot be changed if cross-connections exist on the NPC.

The NPC must be out of service to change the facility provisioning. It can be taken out of service using the **RMV** command. Changes to the parameters will take effect when the NPC is restored (**RST**) to service. When the NPC facility provisioning is changed, all programmable alarm thresholds revert to their default values. These default thresholds are defined in the **GRTH : NPC, TYPE** message. If values other than the defaults are desired, a separate **CHG : NPC, OPTS** command must be given for each value.

The NPC must be out of service to change the facility provisioning. It can be taken out of service using the **RMV-EQPT** command. Changes to the parameters will take effect when the NPC is restored (**RST-EQPT**) to service. When the NPC facility provisioning is changed, all programmable alarm thresholds revert to the default values. These default thresholds are defined in the **CRTE-EQPT : NPC** message. If values other than the defaults are desired, a separate **ED-PRMTR-EQPT** command must be given for each value. Some in-service facility parameter changes are allowed. For in-service changes, the programmable alarm threshold values do not revert to their default values.

For DS3U NPCs, use CHG::NPC,TYPE to request a change of the NPC Type and insertion word.

For DS3U NPCs, use ED-PRMTR::NPC to request a change of the NPC type and insertion word.

### **Command**

---

#### **Nonhierarchical**

---

[I.38211]

CHG:FRM xy,SEQ ww:NPC [s]abc,TYPE mnxyz[,IW X'pq[,INCL]]!

#### **Hierarchical**

---

[I.38211]

CHG:FRM xy,SEQ ww:NPC uvmnp,TYPE mnxyz[,IW X'pq[,INCL]]!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.38211]

M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc TYPE mnxyz\  
[ IW pq[ INCL]] 2 LN MSG:  
OLD TYPE ttuvw[ OLD IW rs] COMPL

#### **Hierarchical**

---

[O.38211]

M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp TYPE mnxyz\  
[ IW pq[ INCL]] 2 LN MSG:  
OLD TYPE ttuvw[ OLD IW rs] COMPL

## Denial Message

---

### Nonhierarchical

---

[O.38211.01]

M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc TYPE mnxyz[ IW pq[ INCL]] \

COND cc DNY

### Hierarchical

---

[O.38211.01]

M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp TYPE mnxyz[ IW pq[ INCL]] \

COND cc DNY

## Autonomous Message

---

Not applicable.

## Explanation Of Parameters

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**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

The allowable values are presented below:

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

**uvmnp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number in unit uv  
**np** - NPC number in module m

The allowable values are presented below:

DE, DS, and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|                      |                      |                     |
|----------------------|----------------------|---------------------|
| Unit<br><b>01-16</b> | Module<br><b>1-4</b> | NPC<br><b>01-40</b> |
|----------------------|----------------------|---------------------|

**OLD** - Old

**TYPE** - Type

**mnxyz** - NPC type

*mnxyz Type*

DAxyz FTU ANSI DS1 NPC type

DExyz FTU DS1 NPC type

DSxyz SLC® Carrier Terminating NPC type

DA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                        |
|------------|-----------------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                               |
| <b>1*</b>  | NZCS - No zero code suppression                           |
| <b>2*</b>  | B8ZS - Bipolar with 8 zero substitution                   |
| <b>3</b>   | Not assigned                                              |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling             |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling         |
| <b>6</b>   | B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling |
| <b>7-9</b> | Not assigned                                              |

\* Only options 1 and 2 are applicable to DA-type clear-DS1 NPC.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering                |
| <b>1</b>   | D2 channel bank channel numbering                |
| <b>2</b>   | D1D channel bank channel numbering               |
| <b>3-8</b> | Not assigned                                     |
| <b>9</b>   | Unchannelized 193-bit Clear DS1 Cross-connection |



DA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a DA NPC with both a valid framing format (D4, ESF, T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the DA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II FTU, the NPC must be provisioned as NPC type **DE9y9**.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the DA NPC type. If ZBTSI is desired on an NPC in a DACS II FTU, the NPC must be provisioned as a DE NPC type with its **y** option selecting ZBTSI (**DEx3z**).

#### DE-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | Not assigned                                     |
| <b>1</b>   | D4                                               |
| <b>2</b>   | ESF - Voice                                      |
| <b>3</b>   | ESF - Data                                       |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24)    |
| <b>5-7</b> | Not assigned                                     |
| <b>8</b>   | Ericsson Cellular format                         |
| <b>9</b>   | No framing format, transparent (TRSP), clear-DS1 |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                        |
|------------|-----------------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                               |
| <b>1*</b>  | NZCS - No zero code suppression                           |
| <b>2*</b>  | B8ZS - Bipolar with 8 zero substitution                   |
| <b>3†</b>  | ZBTSI - Zero-bit time-slot interchanger                   |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling             |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling         |
| <b>6</b>   | B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling |
| <b>7-9</b> | Not assigned                                              |

\* Only options 1 and 2 are applicable to DE-type clear-DS1 NPC.

† Only valid with ESF (x = 2 or 3)

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                     |
|------------|----------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering      |
| <b>1</b>   | D2 channel bank channel numbering      |
| <b>2</b>   | D1D channel bank channel numbering     |
| <b>3-8</b> | Not assigned                           |
| <b>9</b>   | No channel numbering format, clear-DS1 |

DS-type xyz fields

**x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>               |
|------------|----------------------------------|
| <b>0</b>   | Not assigned                     |
| <b>1</b>   | D4                               |
| <b>2</b>   | ESF - Voice                      |
| <b>3</b>   | Not assigned                     |
| <b>4</b>   | Not assigned                     |
| <b>5</b>   | Not assigned                     |
| <b>6</b>   | SLC® 96 carrier Fs               |
| <b>7</b>   | SLC 5 carrier ESF with data link |
| <b>8-9</b> | Not assigned                     |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                      |
|------------|-----------------------------------------|
| <b>0</b>   | Zero code suppression (ZCS)             |
| <b>1</b>   | No zero code suppression (NZCS)         |
| <b>2</b>   | Bipolar with 8 zero substitution (B8ZS) |
| <b>3-9</b> | Not assigned                            |

**z** - Counting sequence format

| <b>z</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | SLC 96 carrier Mode III D4 counting sequence  |
| <b>1</b>   | SLC 96 carrier Mode III D1D counting sequence |
| <b>2</b>   | SLC 96 carrier Mode I D1D counting sequence   |
| <b>3</b>   | SLC Series 5 carrier D4 counting sequence     |
| <b>4-9</b> | Not assigned                                  |

**Note:** For DS-type NPCs only, all cross-connects must be disconnected before the NPC's type can be changed because the NPC must be deleted from the RT in order to change the

NPC's type.

**ttuvw** - Previous value of mnxyz

**IW** - Insertion word

**pq** - Insertion word value (hexadecimal)

Hexadecimal value of the growth insertion word (GIW). Specifies the insertion word sent in the transmit direction on unassigned channels. If this value is not specified, it remains unchanged from its previous value.

An eight-bit code, called the growth insertion word, is transmitted by this NPC on unassigned 64kb/s channels. This code is specified by the optional keyword IW and its argument pq. This code was previously called the Disconnect Code (DCC), but that name is properly reserved for the cross-connect insertion word, which is transmitted when the disconnect message with DDC specified is used.

For Clear-DS1 NPCs, the insertion word option is **NOT** available and the message will be denied if this option is entered. The alarm indication signal (AIS) is transmitted in the disconnect or idle state.

Although any 2-digit hexadecimal code may be used (see INCL below), some common GIWs are:

| <i>pq</i> | <i>Explanation</i>                                                                                                                                                                                                           |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7F        | Unassigned Channel Code (UAC). Default value for all NPC types with non-T1DM framing.                                                                                                                                        |
| 18        | Unassigned Multiplex Code (UMC). Default value for DE/DA type NPCs provisioned with T1DM framing. This value should only be provisioned with T1DM framing (DE4yz or DA4yz), so the change command enforces this restriction. |
| FF        | Per channel all ones code, needed for unconnected channels in SLC <sup>®</sup> carrier (DS type NPCs) and computer-to-PBX interface (CPI) applications.                                                                      |

**rs** - Previous value of pq

**INCL** - Inclusive

As a protection to users, this keyword must be added to provision an NPC with D4 framing and an Insertion Word with bit 2 equal to zero. NPCs grown in the D4 format (DE1yz/DA1yz) transmit a DS1 yellow alarm by setting bit 2 to zero in all 24 DS0 channels. If the Insertion Word "pq" is unknowingly provisioned in this manner, the NPC will transmit a D4 yellow alarm signal when it is restored. The D4 yellow alarm is generated by any Insertion Word with the binary value a0cdefgh, where the letters a-h define the eight bits of the binary word. The D4 yellow alarm is not generated by an Insertion Word with a binary value a1cdefgh.

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 02** Subject entity is not equipped
- 03** Subject entity is in service
- 10** Unit is not equipped
- 11** UC is out of service
- 12** UC is in service but failed
- 13** FTMI is not equipped
- 14** FTMI is out of service
- 1F** FTMI is in service but failed
- 20** Option rr/m has not been set up on 2nd database
- 21** Minor >= major for SLIP opt
- 26** NPC type error
- 29** IW is UMUX (18) but NPC not type DE4yz
- 2A** DMI combined with T1DM
- 2B** Maj|Min BER threshold is 7, but not in T1DM or Fe mode
- 34** NPC type option xyz is unassigned
- 35** NPC has active circuit
- 4E** RTBC conference exists
- 86** NPC is NPCTG and chan 24 is used in a TG;Can't change to T1DM or DMI
- 3D** Alarm bits cannot be passed through or inverted
- 42** Change not valid
- 4E** IW option is not allowed for new type of Clear-DS1 NPC
- 4F** BER must not be less than 4 for Clear DS1
- 7C** Different DSxyz types are used for DGA/DGP on same DDC for Mode I
- 83** Option not programmable for this NPC type
- 8A** x & z parameters on DSxyz are inconsistent
- 8F** NPC not deleted
- BB** Timeslot channel numbering not allowed with CAS
- C9** In-service NPC change not allowed
- CD** NPC not designated as sync timing source
- F2** Invalid NPC number specified

**cc**    *Explanation*

- F6**    T1DM or DMI mode and channel 24 is connected
- FC**    ZBTSl option is only valid with the ESF mode
- FE**    Change to non-ESF digroup with 16-state cross-connect
- FF**    Change to T1DM digroup with cross-connect that is not TRSP
- 05**    This NPC type does not allow unframed Clear-DS1
- 87**    NPC as 12th test port can not change to DMI nor T1DM
- 36**    INCL keyword needed when restricted Insertion Word specified
- 7E**    Framed/Unframed clear 2Mbit/s NPC invalid for Automatic CRC-4
- 7F**    Unframed clear 2Mbit/s NPC invalid for TS0 processing
- 80**    Framed/Unframed clear 2Mbit/s NPC invalid for Transmic 1G, 2G
- 81**    Framed/Unframed clear 2Mbit/s NPC invalid for Firmware Timing
- 82**    Unframed clear 2Mbit/s NPC invalid for Bit 4 used as RA IS/RBER
- 85**    IW not allowed to be specified in Clear 2Mbit/s
- A1**    NPC has been designated as NPCTG
- A7**    NPC has been designated as NPCTP
- E5**    Invalid combination of "x" and "z" values
- E7**    Invalid combination of "x" and "y" values

## **CHG,NPC,TYPE,IW,X,INCL**

### **CHANGE DS3U NPC TYPE**

#### **Explanation Of Command**

For **DACS II DS3 Units**, this command changes a single or range of TE or TA type Network Processing Circuits (NPCs) to the newly specified type without disconnecting and reconnecting provisioned circuits. The NPCs must be out of service.

The "mn" field, as well as the "xyz" field, of the NPC type parameter ("mnxyz") can be changed by this command. This feature is used to change between the different types (TE and TA) of NPCs supported by the DS3 Unit line termination circuit packs.

A range is allowed for the NPCs within one DS3 Unit. The optional insertion word field is used to change the disconnect code (DCC).

The new parameters will take effect when the NPC is restored to service. When the NPC **TYPE** parameters are changed, all programmable alarm thresholds revert to the default values. If values other than defaults are desired, a separate **CHG** command must be given for each value. There will be one output completion message for each NPC in the range.

#### **Command**

##### **Nonhierarchical**

[I.38271]

**CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]def],TYPE mnxyz[,IW X'pq[,INCL]]!**

### **Hierarchical**

---

[I.38271]

CHG:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],TYPE mnxyz[,IW X'pq[,INCL]]!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.38271]

M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc TYPE mnxyz[ IW pq[ INCL]] \\  
2 LN MSG:  
OLD TYPE ttuvw[ OLD IW rs] COMPL

#### **Hierarchical**

---

[O.38271]

M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp TYPE mnxyz[ IW pq[ INCL]] \\  
2 LN MSG:  
OLD TYPE ttuvw[ OLD IW rs] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.38271.01]

M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc[-[t]def] TYPE mnxyz\  
[ IW pq[ INCL]] COND cc DNY

#### **Hierarchical**

---

[O.38271.01]

M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp[-uvkqr] TYPE mnxyz\  
[ IW pq[ INCL]] COND cc DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

Use the optional insertion word (IW X'pq) field to change the unassigned channel code.

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC Number

**[t]def** - The 3- or 4-digit nonhierarchical NPC number denoting the end of a range specification.

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |



| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number  
**uvkqr** - Hierarchical NPC number denoting the end of a range specification  
**uvghi** - Hierarchical NPC number within the range of uvmnp and uvkqr  
**uvjyl** - Hierarchical NPC number of the first NPC of the denied range  
**uvmno** - Hierarchical NPC number of the last NPC of the denied range

**uv** - Unit number  
**m, k, j, m, g**  
- Module number  
**np, qr, yl, no, hi**  
- NPC number within the module

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**mnxyz** - NPC-type identifier  
**TYPE** - Type

*mnxyz Explanation*

TExyz DS3U Enhanced NPC  
TAxyz DS3U ANSI NPC

## TA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                |
|------------|---------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                       |
| <b>1*</b>  | NZCS - No zero code suppression                   |
| <b>2</b>   | Not assigned                                      |
| <b>3</b>   | Not assigned                                      |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling     |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling |
| <b>6-9</b> | Not assigned                                      |

\* Only option 1 is applicable to TA-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering                |
| <b>1</b>   | D2 channel bank channel numbering                |
| <b>2</b>   | D1D channel bank channel numbering               |
| <b>3-8</b> | Not assigned                                     |
| <b>9</b>   | Unchannelized 193-bit Clear DS1 Cross-connection |

TA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a TA NPC with both a valid framing format (D4,ESF,T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the TA NPC type. If an unframed Clear DS1

cross-connection is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as NPC type TE919.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the TA NPC type. If ZBTSI is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as a TE NPC type with its **y** option selecting ZBTSI (**TEx3z**).

#### TE-type xyz fields

##### **x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | Not assigned                                     |
| <b>1</b>   | D4                                               |
| <b>2</b>   | ESF - Voice                                      |
| <b>3</b>   | ESF - Data                                       |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24)    |
| <b>5-7</b> | Not assigned                                     |
| <b>8</b>   | Ericsson Cellular format                         |
| <b>9</b>   | No framing format, transparent (TRSP), clear-DS1 |

##### **y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                |
|------------|---------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                       |
| <b>1*</b>  | NZCS - No zero code suppression                   |
| <b>2</b>   | Not assigned                                      |
| <b>3</b>   | Not assigned                                      |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling     |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling |
| <b>6-9</b> | Not assigned                                      |

\* Only option 1 is applicable to TE-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

##### **z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                     |
|------------|----------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering      |
| <b>1</b>   | D2 channel bank channel numbering      |
| <b>2</b>   | D1D channel bank channel numbering     |
| <b>3-8</b> | Not assigned                           |
| <b>9</b>   | No channel numbering format, clear-DS1 |

**IW** - Insertion Word

**pq** - Hexadecimal value of the growth insertion word (GIW). Specifies the insertion word in the transmit direction on unassigned channels.

An eight-bit code, called the growth insertion word, is transmitted by this NPC on unassigned DS0 channels. This code is specified by the optional keyword IW and its argument pq. This code was previously called the Disconnect Code (DCC), but that name is properly reserved for the cross-connect insertion word, which is transmitted when the disconnect message with the DDC specified is used.

Although any 2-digit hexadecimal code may be used (see INCL below), the default GIWs are:

| <i>pq</i> | <i>Explanation</i>                                                                                                                                                                                                                    |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7F        | Unassigned Channel Code (UAC), the default value for TE/TA type NPCs provisioned with D4 or ESF framing.                                                                                                                              |
| 18        | Unassigned Multiplex Code (UMC), the default value for TE/TA type NPCs provisioned with T1DM framing. This value should only be provisioned with T1DM framing (DA4yz or TA4yz). The change command does not enforce this restriction. |

**INCL** - Inclusive

As a protection to users, this keyword must be added to provision an NPC with D4 framing and an Insertion Word with bit 2 equal to zero. NPCs grown in the D4 format (TE1yz/TA1yz) transmit a DS1 yellow alarm by setting bit 2 to zero in all 24 DS0 channels. If the Insertion Word "pq" is unknowingly provisioned in this manner, the NPC will transmit a D4 yellow alarm signal when it is restored. The D4 yellow alarm is generated by any Insertion Word with the binary value a0cdefgh, where the letters a-h define the eight bits of the binary word. The D4 yellow alarm is not generated by an Insertion Word with a binary value a1cdefgh.

For Clear-DS1 NPCs, the insertion word option is **NOT** available and the message will be denied if this option is entered. The alarm indication signal (AIS) is transmitted in the disconnect or idle state.

**[s]ghi,**

- The 3- or 4-digit nonhierarchical NPC number within the range of [s]abc and [t]def

**[s]jkl**

- The 3- or 4-digit nonhierarchical NPC number of the first NPC of a range that is being denied ( $abc \leq jkl \leq mno$ )

**[t]mno** - The 3- or 4-digit nonhierarchical NPC number of the last NPC of a range that is being denied ( $jkl \leq mno \leq def$ )

**ttuvw** - Previous value of mnxyz

**rs** - Previous value of pq

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 02** Subject entity is not equipped
- 03** Subject entity is in service
- 10** Unit is not equipped
- 11** UC is out of service
- 12** UC is in service but failed
- 24** Unit type error
- 26** NPC type error
- 29** IW is UMUX (18) but NPC not type DE4yz
- 2A** DMI combined with T1DM
- 34** NPC type option xyz is unassigned
- 35** NPC has active circuit
- 01** Invalid range for specified NPC type
- 11** NPC not equipped
- 4E** IW option is not allowed for new type of Clear-DS1 NPC
- BF** MIU is not equipped
- F6** T1DM or DMI mode and channel 24 is connected
- FD** NPC range crosses unit boundary
- 05** This NPC type does not allow unframed Clear-DS1
- 87** NPC as 12th test port can not change to DMI nor T1DM
- 9B** The MXR is not grown
- 44** Service MXR is not equipped
- 07** Mismatch between MXR and NPC types
- 36** INCL keyword needed when restricted Insertion Word specified
- A1** NPC has been designated as NPCTG
- A7** NPC has been designated as NPCTP
- E5** Invalid combination of "x" and "z" values
- E7** Invalid combination of "x" and "y" values

## **CHG,PASSWD,OLD,NEW**

### **CHANGE USER PASSWORD**

#### **Explanation Of Command**

This message requests a change of a previously created password by any user of DACS II.

For an X.25 link, <old pswd>:<new pswd> option must be used. DACS II will not prompt the user for old and new password.

For a SCCSAI (Snider) link, <old pswd>:<new pswd> option cannot be used.

For a Snider link, DACS II will prompt the user for the old and new password. Neither new nor old password characters will be echoed by DACS II.

Output from this command is sent only to the link on which the command was input.

### **Command**

---

[I.38301]

**CHG:FRM xy,SEQ ww:PASSWD[,OLD <old password>, \**  
**NEW <new password>]!**

If the user is on a Snider protocol administrative link, the message is entered as follows:

[I.38301]

**CHG:FRM xy,SEQ ww:PASSWD!**

Then DACS II will prompt the user for the old and new password:

**OLD PASSWD: (user enters the old password)**  
**NEW PASSWD: (user enters the new password)**  
**PASSWD: (user re-enters the new password for verification)**

### **Completion Message**

---

[O.38301]

**M hh:mm:ss xy,ww n[vv] CHG PASSWD COMPL**

### **Denial Message**

---

[O.38301.01]

**M hh:mm:ss xy,ww n[vv] CHG PASSWD COND cc DNY**

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**PASSWD** - Password

**OLD** - Old

**old password**

- Old password, where password is at least six alphanumeric characters.

**NEW** - New

**new password**

- New password where password is at least six alphanumeric characters.

**cc** - Hexadecimal condition code

**cc** *Explanation*

**D6** Incorrect or missing password

**DA** User is not logged in



## **CHG,RT,DL,TO**

### **CHANGE BANK NUMBER**

#### **Explanation Of Command**

This command can be used to change the bank identification number of a remote terminal (RT) or a digital carrier line unit (DCLU).

#### **Command**

[I.38351]

**CHG:FRM xy,SEQ ww:{RT|DL} ffff,TO gggg!**

#### **Completion Message**

[O.38351]

**M hh:mm:ss xy,ww n[vv] CHG {RT|DL} ffff TO gggg COMPL**

#### **Denial Message**

[O.38351.01]

**M hh:mm:ss xy,ww n[vv] CHG {RT|DL} ffff TO gggg COND cc DNY**

#### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**RT** - Remote Terminal  
**DL** - Digital Carrier Line Unit (DCLU)  
**ffff** - Old bank identification (0000 through 9999)  
**gggg** - New bank identification (0000 through 9999)

**cc** - Hexadecimal condition code

**cc**    *Explanation*

**00**    No conditions  
**7E**    Bank id number not found  
**85**    New bank id is an assigned one

## **CHG,RT,RTF,SWMN**

### **CHANGE PWR/MISC OPTION OR FPC RT RETROFIT STATUS**

#### **Explanation Of Command**

This command is used to change the PWR/MISC alarm options associated with a bank identification number without affecting service.

#### **Command**

[I.38361]

**CHG:FRM xy,SEQ ww:RT ffff, [{sss|RTF}] [,SWMN x]!**

#### **Completion Message**

##### **Nonhierarchical**

[O.38361]

**M hh:mm:ss xy,ww n[vv] CHG RT ffff DGA [s]aaa 2 LN MSG:  
[{OLD ttt NEW sss|RTF} ][SWMN x] COMPL**

##### **Hierarchical**

[O.38361]

**M hh:mm:ss xy,ww n[vv] CHG RT ffff DGA uvmnp 2 LN MSG:  
[{OLD ttt NEW sss|RTF} ][SWMN x] COMPL**

## Denial Message

---

### Nonhierarchical

---

[O.38361.01]

M hh:mm:ss xy,ww n[vv] CHG RT ffff DGA [s]aaa[ {sss|RTF}] \  
[ SWMN x] COND cc DNY

### Hierarchical

---

[O.38361.01]

M hh:mm:ss xy,ww n[vv] CHG RT ffff DGA uvmnp[ {sss|RTF}] \  
[ SWMN x] COND cc DNY

## Autonomous Message

---

Not applicable.

## Explanation Of Parameters

---

**RT** - Remote Terminal

**ffff** - Bank identification number (0000 through 9999)

**sss** - PWR/MISC alarm option

Valid values are listed below

| <i>sss</i> | <i>Explanation</i> |
|------------|--------------------|
|------------|--------------------|

|     |                                                               |
|-----|---------------------------------------------------------------|
| PMJ | The PWR/MISC alarm from the data link is a power major alarm. |
|-----|---------------------------------------------------------------|

|     |                                                               |
|-----|---------------------------------------------------------------|
| PMN | The PWR/MISC alarm from the data link is a power minor alarm. |
|-----|---------------------------------------------------------------|

|     |                                                                       |
|-----|-----------------------------------------------------------------------|
| MMJ | The PWR/MISC alarm from the data link is a miscellaneous major alarm. |
|-----|-----------------------------------------------------------------------|

|     |                                                                       |
|-----|-----------------------------------------------------------------------|
| MMN | The PWR/MISC alarm from the data link is a miscellaneous minor alarm. |
|-----|-----------------------------------------------------------------------|

**RTF** - SLC® Series 5 Carrier FPC RT Retrofit

**SWMN** - Protection switch related minor alarm

**x** - Protection switch related minor alarm handling setting

*x Explanation*

R Declare the MN alarm locally and report it to the digital switch

L Declare the MN alarm locally only

**DGA** - Digroup A of a SLC® 96 Carrier RT

**[s]aaa** - The 3- or 4-digit nonhierarchical Digroup A NPC number

If NPC numbers are expressed in three digits, the valid values are:

DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

**uvmnp** - Hierarchical Digroup A NPC number

**uv** - Unit number

**m** - Module number

**np** - NPC number

DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

**ttt** - The old PWR/MISC alarm option

**cc** - Hexadecimal condition code

**cc**    *Explanation*

**11**    UC is out of service

**2E**    RTF keyword and the operation mode does not match

**2F**    The RT id entered is not a retrofit one

**67**    DGA is not added

**76**    Alarm option and bank mode don't match

**7E**    Bank id number not found

**90**    NDL option is specified for DGA

**10**    RT's alarm exists

**97**    option LOCAL already exists

**98**    option REMOTE already exists

**99**    can't change option, protection switch is active

**9A**    can't change option, inhibition is active

## **CHG,SCON,OLD,NEW**

### **CHANGE SUBRATE CROSS-CONNECTION**

#### **Explanation Of Command**

This command changes the external facility termination associated with a multipoint circuit branch from an existing digroup, channel, and (optional) customer number to a **NEW** digroup, channel, and (optional) customer number.

Execution of this command causes the disconnection of the existing facility and reconnection to a **NEW** external facility termination. The external facility termination associated with the original connection is left established to the Subrate feature with an unassigned multiplexer channel (UMC) code inserted towards the **OLD** facility.

Once moved to the **NEW** facility termination, the circuit or the multipoint circuit master leg and all of its associated branches is(are) left in the same terminate and leave state that existed with the **OLD** channel. For example, if the **OLD** channel was terminated in the TO direction before the change command, it remains terminated in the same direction after the command.

If desired, changes to the terminate and leave state can be done either before or after moving the channel by using the Subrate Test Access command or the Subrate Change Termination command.

In effect, this command combines the operations of **SDIS** and **SCON** commands that would be necessary to do the same change but with a minimum of service interruption.

Before using this command, the **NEW** channel must be established to the Subrate feature (**SECH**), and the **NEW** facility termination must not already be cross-connected (for example, with a previous **SCON**). The specified **OLD** facility termination must be cross-connected in an existing Subrate multipoint circuit and the specified **NEW** facility termination cannot be the same as the **OLD**. Also, neither the **NEW** termination nor any portion of the existing circuit can be under test access at the time this command is issued.

Circuits connected to an out-of-service facility NPC may also be moved with this command. Such changes require no special keyword in the input command, but the output message will indicate that the facility is out-of-service. The user should note that the UMC code may not be inserted in the disconnected facility channel until the facility is restored to service under these conditions.

If the facility NPC associated with the **NEW** channel is out-of-service, the command will be denied.

### **Command**

---

#### **Nonhierarchical**

---

[I.19581]

**CHG:FRM xy,SEQ ww:SCON,OLD [s]abcddd[/ff],NEW [t]ghijjj[/ll]!**

#### **Hierarchical**

---

[I.19581]

**CHG:FRM xy,SEQ ww:SCON,OLD uvmnpddd[/ff],NEW wxkqrjjj[/ll]!**

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.19581]

**M hh:mm:ss xy,ww n[vv] CHG SCON OLD [s]abcddd/ff \**  
**NEW [t]ghijjj/ll[ OOS] COMPL**

#### **Hierarchical**

---

[O.19581]

**M hh:mm:ss xy,ww n[vv] CHG SCON OLD uvmnpddd/ff \**  
**NEW wxkqrjjj/ll[ OOS] COMPL**



### Denial Message

---

### Nonhierarchical

---

[O.19581.01]

M hh:mm:ss xy,ww n[vv] CHG SCON OLD [s]abcddd/ff \  
NEW [t]ghijjj/ll 2 LN MSG:  
<reason> DNY

### Hierarchical

---

[O.19581.01]

M hh:mm:ss xy,ww n[vv] CHG SCON OLD uvmnpddd/ff \  
NEW wxkqrjjj/ll 2 LN MSG:  
<reason> DNY

### Autonomous Message

---

Not applicable.

### Explanation Of Parameters

---

**NEW** - New

**OLD** - Old

**[s]abc** - The 3- or 4- digit OLD nonhierarchical NPC number  
**[t]ghi** - The 3- or 4- digit NEW nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - OLD hierarchical NPC number  
**wxkqr** - NEW hierarchical NPC number

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

The valid values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number  
**jjj** - Channel number

The valid values are listed below:

001 through 024

001-047      Odd only (SLC 96® Carrier, Mode 3, DGA)  
049-095      Odd only (SLC 96 Carrier, Mode 3, DGC)  
001-024      Odd and Even (SLC 96 Carrier, Mode 1, DGA)  
025-048      Odd and Even (SLC 96 Carrier, Mode 1, DGB)  
049-072      Odd and Even (SLC 96 Carrier, Mode 1, DGC)  
073-096      Odd and Even (SLC 96 Carrier, Mode 1, DGD)  
001-024      Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA)  
025-048      Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB)  
049-072      Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC)  
073-096      Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD)

**ff**      - Customer number

**ll**      - Customer number

The valid values are listed below:

01      (DS0A at 2.4, 4.8, 9.6, or 56 kb/s)  
01-20   (DS0B at 2.4 kb/s)  
01-10   (DS0B at 4.8 kb/s)  
01-05   (DS0B at 9.6 kb/s)

The customer numbers, **ff** and/or **ll**, are optional when the facility termination is a DS0A channel because there is only one customer in a DS0A channel. If specified for this type of channel, the customer number must appear as 01. A customer number is required when specifying a facility termination in a DS0B (subrate multiplexed) channel.

The allowed customer numbers for the NEW termination field depend on the rate of the existing circuit and the type of DS0B channel associated with the NEW termination. If the circuit rate is equal to or lower than the maximum DS0B rate, the command will be allowed, as shown below:

| [Multipoint]<br>Circuit<br>Rate | NEW DS0B Type                                  |                                                |                                               |
|---------------------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------|
|                                 | 20-channel<br>(max. customer<br>rate 2.4 kb/s) | 10-channel<br>(max. customer<br>rate 4.8 kb/s) | 5-channel<br>(max. customer<br>rate 9.6 kb/s) |
| 24                              | Customer No.<br>1-20 Allowed                   | Customer No.<br>1-10 Allowed                   | Customer No.<br>1-5 Allowed                   |
| 48                              | Denied                                         | Customer No.<br>1-10 Allowed                   | Customer No.<br>1-5 Allowed                   |
| 96                              | Denied                                         | Denied                                         | Customer No.<br>1-5 Allowed                   |
| 56                              | Denied                                         | Denied                                         | Denied                                        |

The user must ensure that a circuit using the secondary channel capability is only assigned to a NEW facility termination that is compatible with this capability. If the NEW termination is a DS0A or if zero suppression was NOT specified when its associated facility NPC was equipped then any assignment of the NEW termination is compatible with the secondary channel capability. If the NEW termination is in a DS0B **and** if zero suppression was specified when its associated facility NPC was equipped the user can only assign secondary channel services to a NEW termination with the following customer numbers within the given DS0B type:

| DS0B Type  | Allowed Customer Numbers       |
|------------|--------------------------------|
| 20-channel | 2, 3, 6, 8, 11, 12, 13, and 18 |
| 10-channel | 2, 3, 6, and 8                 |
| 5-channel  | 2 and 3                        |

If the OLD facility is connected to a branch of a multipoint circuit, it is disconnected from the MJU and the NEW facility is connected to the same MJU and branch.

**oos** - Out-of-service

The **oos** keyword appears in the output whenever the disconnection of the f(CBOLDf1 facility has taken place with its facility terminating NPC out-of-service or failed. In this case, the user should note that the Unassigned Multiplexer Channel (UMC) code may not be inserted towards the disconnected f(CBOLDf1 facility until its NPC is restored to service. external facility termination data (e.g., [s]abcddd/ff) is always set to 01 for DS0A channels.

**[s]abcddd/ff**

- OLD external facility termination

**[t]ghijjj/ll**

- NEW external facility termination

**reason** - Reason for denial

The reasons listed below contain variables represented in lower case letters. As shown the variables representing NPC numbers are in nonhierarchical format. These variables can also appear in hierarchical format. They take the form used in the input command where applicable.

## Input Errors

### *reason*

CHANNEL [s]abcddd IS NOT ESTABLISHED TO SR FEATURE  
CHANNEL [s]abcddd IS A PARITY CHANNEL  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS-OA CHANNEL [s]abcddd  
CUSTOMER NUMBER MUST BE SPECIFIED FOR DS-OB CHANNEL [s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS-OB CHANNEL [s]abcddd  
CHANNEL [s]abcddd WITH SR ERROR CORRECTION AND RATE 56 NOT ALLOWED  
CHANNEL [s]abcddd SR MULTIPLEXER RATE CANNOT SUPPORT CIRCUIT RATE  
CHANNEL [s]abcddd/ff IS ASSIGNED  
CHANNEL [s]abcddd/ff IS SPECIFIED MORE THAN ONCE  
CHANNEL [s]abcddd/ff IS UNDER TEST  
CHANNEL [s]abcddd/ff IS UNASSIGNED  
CHANNEL [s]abcddd IS OUT OF RANGE  
CHANNEL [s]abcddd/ff IS NOT CONNECTED IN A MULTIPOINT CIRCUIT  
CHANNEL [s]abcddd/ff IS A MULTIPOINT MASTER, MPTM KEYWORD  
FORBIDDEN  
NPC [s]abc IS NOT PROVISIONED AS DIGROUP-A OF AN RT  
DIGROUP-B ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS NOT  
PROVISIONED  
DIGROUP-C ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS NOT  
PROVISIONED  
DIGROUP-D ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS NOT  
PROVISIONED  
INVALID CHANNEL NUMBER FOR CHANNEL [s]abcddd  
NPC [s]abc IS IN LINE LOOPBACK STATE  
SPECIFIED RATE DOES NOT MATCH EXISTING CIRCUIT RATE  
CIRCUIT IS UNDER TEST

## Maintenance Conditions

### **reason**

BOTH CCN SIDES ARE OUT-OF-SERVICE  
ACTIVE CCN SIDE IS {OUT-OF-SERVICE|FAILED|PESTED}  
CCNI s IS {OUT-OR -SERVICE|FAILED}  
TSI sft IS {NOT EQUIPPED|OUT-OF-SERVICE|FAILED}  
CCB sf IS {NOT EQUIPPED|OUT-OF-SERVICE|FAILED}  
CCI s IS {OUT-OR -SERVICE|FAILED}  
ETSI sqq IS {NOT EQUIPPED|OUT-OF-SERVICE|FAILED}  
UNIT [q]q IS {NOT EQUIPPED|OUT-OF-SERVICE|FAILED}  
UNIT [q]q FTMI d IS {NOT EQUIPPED|OUT-OF-SERVICE|FAILED}  
UNIT [q]q FC sb IS {NOT EQUIPPED|OUT-OF-SERVICE|FAILED}  
DSPI IN UNIT [q]q IS {OUT-OF-SERVICE|FAILED}  
NPC [s]abc IS {NOT EQUIPPED|OUT-OF-SERVICE|FAILED}  
NPC [s]abc SIDE s IS {OUT-OF-SERVICE|FAILED}  
UNIT [q]q IS NOT FACILITY TERMINATING TYPE  
MAINTENANCE CONDITION PREVENTS COMPLETION OF THIS COMMAND

UNIT [q]q MXR c NOT EQUIPPED

UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE

UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED

## **CHG,SCON,OLD,NEW,MPTM**

### **CHANGE SUBRATE CROSS-CONNECTION**

#### **Explanation Of Command**

This command changes the external facility termination associated with the MPTM (multipoint master) leg of a Subrate multipoint circuit from an existing digroup, channel, and (optional) customer number to a **NEW** digroup, channel, and (optional) customer number. Execution of this command causes the disconnection of the existing multipoint circuit's master leg (that is, the control leg of MJU 1) and its reconnection to a **NEW** external facility termination. All branches associated with the circuit are left with their existing external and internal connections. Also, the external facility termination associated with the original connection is left established to the Subrate feature with an Unassigned Multiplexer Channel (UMC) code inserted towards the **OLD** facility. In effect, this command combines the operations of multipoint **SDIS** and **SCON** commands that would be necessary to do the same change but with a minimum of service interruption.

Before using this command, the **NEW** channel must be established to the Subrate feature (**SECH**) and the **NEW** facility termination must not already be cross-connected (for example, with a previous **SCON**). The specified **OLD** facility termination must be the multipoint master termination of an existing Subrate multipoint circuit, and the specified **NEW** facility termination cannot be the same as the **OLD**. Also, neither the **NEW** termination nor any portion of the existing multipoint circuit can be under test access at the time this command is issued.

The user must ensure that a multipoint circuit using the secondary channel capability is assigned only to a **NEW** facility termination that is compatible with this capability. If the **NEW** termination is a DS0A or if its associated facility NPC was provisioned without zero suppression, any assignment of the **NEW** termination is compatible with the secondary channel capability. If the **NEW** termination is in a DS0B and its associated facility NPC was grown with zero suppression, the user can only assign secondary channel services to a **NEW** termination with the following customer numbers within the given DS0B type:



| DS0B Type  | Allowed Customer Numbers       |
|------------|--------------------------------|
| 20-channel | 2, 3, 6, 8, 11, 12, 13, and 18 |
| 10-channel | 2, 3, 6, and 8                 |
| 5-channel  | 2 and 3                        |

Once moved to the **NEW** facility termination, the multipoint circuit master leg and all of its associated branches are left in the same terminate and leave state that existed with the **OLD** channel. For example, if the master leg was terminated in the **TO** direction before the change command, it remains terminated in the same direction after the command. If desired, changes to the terminate and leave state can be done either before or after moving the channel by using the Subrate Test Access command (STST) or the Subrate Change Termination command (CHG).

Multipoint masters connected to an out-of-service facility NPC may also be moved with this command. Such changes require no special keyword in the input command, but the output message will indicate that the facility is out-of-service. The user should note that the UMC code may not be inserted in the disconnected facility channel until the facility is restored to service under these conditions. If the facility NPC associated with the **NEW** channel is out-of-service, the command will be denied.

## **Command**

---

### **Nonhierarchical**

---

[I.19591]

**CHG:FRM xy,SEQ ww:SCON,OLD [s]abcddd[/ff],NEW [t]ghijjj[/ll],\  
MPTM!**

### **Hierarchical**

---

[I.19591]

**CHG:FRM xy,SEQ ww:SCON,OLD uvmnpddd[/ff],NEW wxkqrjjj[/ll],\  
MPTM!**

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.19591]

M hh:mm:ss xy,ww n[vv] CHG SCON OLD [s]abcddd/ff \  
NEW [t]ghijjj/ll MPTM[ OOS] COMPL

#### **Hierarchical**

---

[O.19591]

M hh:mm:ss xy,ww n[vv] CHG SCON OLD uvmnpddd/ff \  
NEW wxkqrjjj/ll MPTM[ OOS] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.19591.01]

M hh:mm:ss xy,ww n[vv] CHG SCON OLD [s]abcddd/ff \  
NEW [t]ghijjj/ll MPTM 2 LN MSG:  
<reason> DNY

#### **Hierarchical**

---

[O.19591.01]

M hh:mm:ss xy,ww n[vv] CHG SCON OLD uvmnpddd/ff \  
NEW wxkqrjjj/ll MPTM 2 LN MSG:  
<reason> DNY

### **Autonomous Message**

---

Not applicable.

### Explanation Of Parameters

|               |                                                                                                |
|---------------|------------------------------------------------------------------------------------------------|
| <b>OLD</b>    | - Old                                                                                          |
| <b>NEW</b>    | - New                                                                                          |
| <b>MPTM</b>   | - Multipoint master                                                                            |
| <b>[s]abc</b> | - The 3- or 4-digit nonhierarchical <b>OLD</b> NPC number of the multipoint circuit master leg |
| <b>[t]ghi</b> | - The 3- or 4-digit nonhierarchical <b>NEW</b> NPC number of the multipoint circuit master leg |

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical **OLD** NPC number of the multipoint circuit master leg

**wxkqr** - Hierarchical **NEW** NPC number of the multipoint circuit master leg

**uv,wx** - Unit number

**m,k** - Module number

**np,qr** - NPC number within the module

The valid values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - **OLD** channel number of the multipoint circuit master leg

**jjj** - **NEW** channel number of the multipoint circuit master leg

**ff** - **OLD** customer number of the multipoint circuit master leg  
(1 through 20)

**ll** - **NEW** customer number of the multipoint circuit master leg  
(1 through 20)

The customer numbers, **ff** and/or **ll**, are optional when the multipoint master termination is a DS0A channel. This is because there is only one customer in a DS0A channel. If specified for this type of channel, it must appear as 01. A customer number is required when specifying a multipoint master termination in a DS0B (subrate multiplexed) channel. The allowed customer numbers for the **NEW** termination field depend on the rate of the existing multipoint circuit and the type of DS0B channel associated with the **NEW** termination. If the circuit rate is equal to or lower than the maximum DS0B rate, the command will be allowed, as shown in the following table.

| MULTIPOINT<br>CIRCUIT<br>RATE | NEW DS0B TYPE                                  |                                                |                                               |
|-------------------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------|
|                               | 20-CHANNEL<br>(MAX. CUSTOMER<br>RATE 2.4 kb/s) | 10-CHANNEL<br>(MAX. CUSTOMER<br>RATE 4.8 kb/s) | 5-CHANNEL<br>(MAX. CUSTOMER<br>RATE 9.6 kb/s) |
| 24                            | Customer No.<br>1-20 Allowed                   | Customer No.<br>1-10 Allowed                   | Customer No.<br>1-5 Allowed                   |
| 48                            | Denied                                         | Customer No.<br>1-10 Allowed                   | Customer No.<br>1-5 Allowed                   |
| 96                            | Denied                                         | Denied                                         | Customer No.<br>1-5 Allowed                   |
| 56                            | Denied                                         | Denied                                         | Denied                                        |

**00S** - Out-of-service

The **00S** keyword appears in the output whenever the disconnection of the **OLD** facility has taken place with its facility terminating NPC out-of-service or failed. In this case, the user should note that the unassigned multiplexer channel (UMC) code may not be inserted towards the disconnected **OLD** facility until its NPC is restored to service.

**[s]abcddd/ff**

- **OLD** master leg external facility termination

**[t]ghijjj/ll**

- **NEW** master leg external facility termination

Nonhierarchical addresses are used for termination numbers in the reason for denial tables given below. Hierarchical addresses may be substituted where ever the Nonhierarchical form is shown. The address form received by the user is determined by the users' machine.

## Input Errors

**reason** - Reason for denial

### **reason**

CHANNEL [s]abcddd IS A PARITY CHANNEL  
CHANNEL [s]abcddd SR MULTIPLEXER RATE CANNOT SUPPORT  
CIRCUIT RATE  
CHANNEL [s]abcddd WITH SR ERROR CORRECTION AND RATE 56 NOT  
ALLOWED  
CHANNEL [s]abcddd/ff IS NOT CONNECTED IN A MULTIPOINT  
CIRCUIT  
CHANNEL [s]abcddd/ff IS SPECIFIED MORE THAN ONCE  
CHANNEL [s]abcddd/ff NOT MULTIPOINT MASTER, MPTM KEYWORD  
FORBIDDEN  
CUSTOMER NUMBER MUST BE SPECIFIED FOR DS-0B CHANNEL  
[s]abcddd  
INVALID CHANNEL NUMBER FOR CHANNEL [s]abcddd  
UNIT [q]q IS NOT FACILITY TERMINATING TYPE  
  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS-0A CHANNEL  
[s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS-0B CHANNEL  
[s]abcddd  
CHANNEL [s]abcddd IS OUT OF RANGE  
[s]abcddd-ddd IS AN INVALID RANGE OF CHANNELS  
  
CHANNEL [s]abcddd/ff IS UNASSIGNED  
  
CONNECTION EXCEEDS REMAINING EC CAPACITY  
CONNECTION EXCEEDS REMAINING SRM CAPACITY  
CONNECTION EXCEEDS REMAINING MJU CAPACITY

CHANNEL [s]abcddd/ff IS UNDER TEST  
CHANNEL [s]abcddd IS NOT ESTABLISHED TO SR FEATURE  
CIRCUIT IS UNDER TEST  
NPC [s]abc IS IN LINE LOOPBACK STATE  
NPC [s]abc IS NOT PROVISIONED AS DIGROUP-A OF AN RT  
DIGROUP-B ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd NOT  
PROVISIONED  
DIGROUP-C ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd NOT  
PROVISIONED  
DIGROUP-D ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd NOT  
PROVISIONED  
NO DSPU IS EQUIPPED  
NO SRM OR MJU TYPE NPC IS EQUIPPED  
NO SRM TYPE NPC IS EQUIPPED  
NO MJU TYPE NPC IS EQUIPPED

#### Maintenance Conditions

**reason** - Reason for denial

#### reason

ACTIVE CCN SIDE-s IS NOT EQUIPPED  
CCB sf IS NOT EQUIPPED  
DSPI IN UNIT [q]q IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED  
TSI sft IS NOT EQUIPPED  
UNIT [q]q IS NOT EQUIPPED  
UNIT [q]q FTMI d IS NOT EQUIPPED  
UNIT [q]q FLI k IS NOT EQUIPPED  
UNIT [q]q MXR c IS NOT EQUIPPED  
UNIT [q]q FMT s IS NOT EQUIPPED

CHANNEL [s]abcddd/ff IS INVOLVED IN A ROLL



ACTIVE CCN SIDE s IS OUT-OF-SERVICE  
BOTH CCN SIDES ARE OUT-OF-SERVICE  
CCB sf IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
ETSI s[q]q IS OUT-OF-SERVICE  
INACTIVE CCN SIDE IN-SERVICE AND NPC [s]abc ON INACTIVE  
SIDE IS OOS  
TSI sft IS OUT-OF-SERVICE  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q FTMI d IS OUT-OF-SERVICE  
UNIT [q]q IS OUT-OF-SERVICE

ACTIVE CCN SIDE s IS FAILED  
ACTIVE CCN SIDE s IS PESTED  
CCB sf IS FAILED  
DSPI IN UNIT [q]q IS FAILED  
ETSI s[q]q IS FAILED  
NPC [s]abc IS FAILED  
NPC [s]abc SIDE s IS FAILED  
TSI sft IS FAILED  
UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q FTMI d IS FAILED  
UNIT [q]q IS FAILED  
UNIT [q]q MIU c IS FAILED  
UNIT [q]q MXR c IS FAILED

## **CHG,SECH,OLD,NEW,PCH,DCC**

### **CHANGE SUBRATE ESTABLISHED CHANNEL**

#### **Explanation Of Command**

This command moves a subrate established channel (**DS0A** or **DS0B**) and all associated subrate cross-connections from an existing digroup and channel to a **NEW** digroup and channel. Once the command executes, the **OLD** channel is left disestablished and the **NEW** channel is established with exactly the same format (that is, rate, **DS0A/DS0B** format, number of subrate multiplexer channels, error correction, etc.) as the **OLD**. When present, any subrate circuits (that is, **SCONS**) that use the **OLD** channel for one or more ends are also moved to the **NEW** channel. In effect, this command combines the operations of the **SDIS**, **SDCH**, **SECH**, and **SCON** commands that would be necessary to do the same change.

Prior to this command, the **NEW** channel must not be established or used in any DACS cross-connection unless it is already established with exactly the same format as the **OLD** channel. However, in the latter case, no prior subrate cross-connections (e.g., **SCONS**) can be present on the **NEW** channel. Also, none of the **OLD** or **NEW** established channels nor any portion of the subrate circuits associated with them can be under test access at the time this command is issued. If no subrate cross-connections are present on the **OLD** channel and the **NEW** channel is already established in the same manner, the command will be denied. In this case, the **OLD** channel can simply be disestablished (**SDCH**) to achieve the same effect as the **CHG** command would otherwise do.

Once moved to the **NEW** channel, the established channel and all associated subrate cross-connections are left in the same terminate and leave state that existed with the **OLD** channel. For example, if one of the subrate circuits in a moved **DS0B** was terminated in the **TO** direction before the change command, it remains terminated in the same direction after the command. If desired, changes to the terminate and leave state can be done either before or after moving the channel by using the **SRDC** Test Access command (**STST**,**TLA**,**TLR**,**TP**) or the subrate change termination command (**CHG**,**TLA**,**TLR**,**TO**)

A range of channels may be specified, provided that parity channel error correction is not used with any channels within the **OLD** or **NEW** channel ranges. If the **OLD** channel has an error correction parity channel associated with it, the **NEW** channel must be specified with the location of the new parity channel by use of the **PCH ppp** field. [Note that the location of the **OLD** channel's parity channel need not be specified since the system will locate and move it along with the data channel automatically.] When specified, the **NEW** parity channel must not be already established or cross-connected unless it is already established as the **NEW** channel's parity channel. If the **OLD** channel is not established with parity channel error correction, the **NEW** channel cannot be specified with the **PCH** field.

Use of the optional **DCC** keyword causes the DDS unassigned multiplexer channel (UMC) code to be inserted in the **OLD** channel(s) towards the digroup facility listed after **OLD** in the message text. If this keyword is not specified, the disconnection code specified in the **GRTH NPC** when the **OLD** digroup was provisioned is used.

**OLD** channels connected to an out-of-service facility NPC may also be moved with this command. Such changes require no special keyword in the input command, but the output message will contain the **OOS** keyword to indicate that the facility is out-of-service. The user should note that the appropriate disconnection channel code may not be inserted in the **OLD** facility channels until the facility is restored to service under these conditions. If the facility NPC associated with the **NEW** channels is out-of-service, the command will be denied.

## **Command**

---

### **Nonhierarchical**

---

[I.19501]

```
CHG:FRM xy,SEQ ww:SECH,OLD [s]abcddd[-eee],NEW [t]ghijjj\  
[-kkk][,PCH ppp][,DCC]!
```

### **Hierarchical**

---

[I.19501]

```
CHG:FRM xy,SEQ ww:SECH,OLD uvmnpddd[-eee],NEW wxqrrjjj[-kkk]\  
[,PCH ppp][,DCC]!
```

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.19501]

M hh:mm:ss xy,ww n[vv] CHG SECH OLD [s]abcddd[-eee] \  
NEW [t]ghijjj[-kkk][ DCC][ OOS] COMPL

#### **Hierarchical**

---

[O.19501]

M hh:mm:ss xy,ww n[vv] CHG SECH OLD uvmnpddd[-eee] \  
NEW wxkqrjjj[-kkk][ DCC][ OOS] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.19501.01]

M hh:mm:ss xy,ww n[vv] CHG SECH OLD [s]abcddd[-eee] \  
NEW [t]ghijjj[-kkk][ DCC] e LN MSG:  
[yyy,zzz]  
<reason> DNY

#### **Hierarchical**

---

[O.19501.01]

M hh:mm:ss xy,ww n[vv] CHG SECH OLD uvmnpddd[-eee] \  
NEW wxkqrjjj[-kkk][ DCC] e LN MSG:  
[yyy,zzz]  
<reason> DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**OLD** - Old

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number of OLD established channel.

**NEW** - New

**[t]ghi** - The 3- or 4-digit nonhierarchical NPC number of NEW established channel.

The allowable values are presented below:

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical OLD NPC number  
**wxkqr** - Hierarchical NEW NPC number

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

The allowable values are presented below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - OLD channel number  
**jjj** - NEW channel number  
**eee** - Channel number for end of OLD range specified  
**kkk** - Channel number for end of NEW range specified

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**PCH** - Parity channel  
**ppp** - Channel number of NEW parity error correction channel

**DCC** - Disconnect code

Appearance of the **DCC** keyword indicates that the DDS unassigned multiplexer channel (UMC) code is inserted towards the OLD channel's facilities when the command completes. If this keyword is not present, the disconnect code specified in the command used to provision digroup abc is used.

The **DCC** keyword appears only if present in the input command.

**e** - Number of lines in the message.

**OOS** - Out-of-service

The OOS keyword appears in the output whenever the established channel change has taken place with the OLD channel's facility terminating NPC out-of-service or failed. In this case, the user should note that the appropriate disconnect channel code may not be inserted in the disestablished channel until the facility is restored to service.

**nnn** - Channel number of OLD error correction parity channel

**yyy** - OLD channel number involved in the denial

**zzz** - NEW channel number involved in the denial



**reason** - Reason for denial

reason

### **Input Errors**

NEW DIGROUP DOES NOT SUPPORT SUBRATE CHANNELS  
NEW CHANNEL IS A TEST PORT  
NEW CHANNEL [s]abcddd IS A TEST GROUP CHANNEL  
NEW PARITY CHANNEL [s]abcddd IS A TEST GROUP  
CHANNEL  
NEW PARITY CHANNEL [s]abcddd IS A TEST PORT  
CHANNEL  
NEW CHANNEL IS ALREADY ESTABLISHED DIFFERENTLY  
THAN OLD  
NEW CHANNEL [s]abcddd HAS ACTIVE SR CROSS-CONNECTS  
NEW CHANNEL IS ALREADY ASSIGNED  
OLD AND NEW CHANNELS ARE THE SAME  
OLD AND NEW CHANNELS PARTIALLY OVERLAP  
NO CUSTOMERS ARE MOVED TO THE ALREADY ESTABLISHED  
NEW CHANNEL

PARITY CHANNEL AND PCH KEYWORD IS REQUIRED

OLD CHANNEL NUMBER IS OUT OF RANGE FOR NPC TYPE  
SPECIFIED  
NEW CHANNEL NUMBER IS OUT OF RANGE FOR NPC TYPE  
SPECIFIED

RANGE CHANGE OF OLD DATA CHANNEL [s]abcddd HAVING  
PCH NOT ALLOWED  
OLD CHANNEL IS A PARITY CHANNEL

OLD CHANNEL [s]abcddd OR A CUSTOMER IS UNDER TEST  
OLD CHANNEL [s]abcddd IS NOT ESTABLISHED TO THE  
SR FEATURE  
NEW CHANNEL [s]abcddd OR A CUSTOMER IS UNDER TEST

### **Maintenance Conditions**

reason

ACTIVE CROSS-CONNECT NETWORK SIDE IS FAILED  
NEW NPC IS OUT-OF-SERVICE  
NEW NPC IS FAILED  
REQUIRED UNIT NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED CCB NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED FTMI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED FC NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED TSI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED DSPI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED SRM NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED SUBRATE PACK NOT EQUIPPED, NOT IN SERVICE, OR  
FAILED

UNIT [q]q MXR c NOT EQUIPPED

UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE

UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED

| st   | d       | Explanation                   |
|------|---------|-------------------------------|
| ROLL | {F T B} | Circuit is involved in a roll |

## **CHG,SETOP,TYPE,ALL,NPCOP**

### **CHANGE/SET OPTIONS**

#### **Explanation Of Command**

This message initializes or changes the DACS II threshold data base, which contains the programmable set of selectable alarm thresholds for facility performance parameters accumulated by DACS II NPCs.

This command will be denied if an attempt is made to set the minor threshold greater than or equal to the major threshold of any parameter specified on *any* NPC currently in the frame.

This command will be also denied if an attempt is made to *disable* the minor slip threshold (by setting its value to zero) before disabling the major slip threshold on *any* in-service NPC on the frame.

Threshold values are entered in free format (1 to 9 digits) separated by commas. Enter a hyphen (-) for values that are *not* to be changed.

Following DACS II installation, the user-programmable (non-default) values are empty until this **CHG::SETOP** command initializes them. A user-programmable threshold value must first be initialized by this message before it can be used as an argument to the **OPTS** keyword of the **GRTH::NPC** (Message I.31352), **CHG::NPC,OPTS** (Message I.38221), and **CHG::NPC** message.

**SETOP rr** designates the parameter to be changed.  
**NPCOP(set1,set2,set3)** are the user-programmable threshold values for the designated parameter.

If **ALL** is specified, the given thresholds will be written to the threshold data base for all types of NPCs for which the associated parameter is valid.

**Note:** This command will not reboot the NPC hardware. Therefore, if any NPCs are in service, use the **UTL::BOOT,FRAME** command (Message I.58001) to avoid any possible

inconsistency.

**Note:** This command will not reboot the NPC hardware. Therefore, if any NPCs are in service, use the **STA-LOCL-RST** command (Message I.58001) to avoid any possible inconsistency.

### Command

---

[I.38201]

**CHG:FRM xy,SEQ ww:SETOP rr,{TYPE mn|ALL},NPCOP(set1,set2,set3)!**

### Completion Message

---

[O.38201]

M hh:mm:ss xy,ww n[vv] CHG SETOP rr e LN MSG:  
{TYPE mn|ALL} NPCOP(set1,set2,set3)  
OPT rr OLD ttttt[tttt] aaaaa[aaaa] bbbbb[bbbb] ccccc[cccc]\  
[ <ta>] <pname>[ TYPE mn]  
[OPT rr OLD ttttt[tttt] aaaaa[aaaa] bbbbb[bbbb] ccccc[cccc]\  
[ <ta>] <pname> TYPE mn]  
OPT rr NEW ttttt[tttt] xxxxx[xxxx] yyyyy[yyyy] zzzzz[zzzz]\  
[ <ta>] <pname> COMPL

### Denial Message

---

### Nonhierarchical

---

[O.38201.01]

M hh:mm:ss xy,ww n[vv] CHG SETOP rr 2 LN MSG:  
{TYPE mn|ALL} NPCOP(set1,set2,set3)[ NPC [s]abc] COND cc DNY

### Hierarchical

---

[O.38201.01]

M hh:mm:ss xy,ww n[vv] CHG SETOP rr 2 LN MSG:  
{TYPE mn|ALL} NPCOP(set1,set2,set3)[ NPC uvmnp] COND cc DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**SETOP** - Set option

**OPT** - Option

**rr** - Facility performance parameter number

Variable *rr* specifies the parameter whose alarm threshold is being set or changed. The parameters and their corresponding *rr* values are given in the table below.

The Major and Minor *Slip* threshold crossing alarms can be disabled by programming a value of zero for the Slip Major and Slip Minor thresholds, respectively.

To use this feature, the Slip Major threshold must be disabled before the Slip Minor threshold. This command will be denied if an attempt is made to disable the Minor Slip threshold (by setting its value to zero) before disabling the Major Slip threshold on *any* in-service NPC on the frame.

For DE type NPCs, parameters with values rr = 1 through 8 are valid.  
For DS type NPCs, parameters with values rr = 1 through 10 are valid.  
For TE type NPCs, parameters with values rr = 1 through 8 are valid.  
For Clear-DS1 DE type NPCs, parameters with values rr = 1 through 4 are valid.  
For Clear-DS1 TE type NPCs, parameters with values rr = 1 through 2 are valid.

| rr | Parameter                             | Threshold<br>Value<br>Range | Default<br>Threshold<br>Value |
|----|---------------------------------------|-----------------------------|-------------------------------|
| 01 | Slip major                            | 000 to 255                  | 255                           |
| 02 | Slip minor                            | 000 to 255                  | 4                             |
| 03 | Bit Error Rate major                  | 1E-3* to 1E-6 <sup>†</sup>  | 1E-3*                         |
| 04 | Bit Error Rate minor                  | 1E-3* to 1E-6 <sup>†</sup>  | 1E-6                          |
| 05 | Errored Seconds <sup>‡</sup>          | 00001 to 65535              | 864                           |
| 06 | Severely Errored Seconds <sup>‡</sup> | 001 to 255                  | 225                           |
| 07 | Change of Frame Alignment major       | 001 to 511                  | 511                           |
| 08 | Change of Frame Alignment minor       | 001 to 255                  | 17                            |
| 09 | Shelf Alarm Near End(SANE)§           | 00001 to 65535              | 00000                         |
| 10 | Shelf Alarm Far End(SAFE)§            | 00001 to 65535              | 00000                         |

\* 4 for clear-DS1 NPCs or DS type NPCs (default)

<sup>†</sup> 7 on DE or TE type NPCs using T1DM (x = 4) or ESF (x = 2 or 3) framing

<sup>‡</sup> Only applicable to DE or TE type NPCs using T1DM (x = 4) or ESF (x = 2 or 3) framing

§ Applicable only to DS type NPCs

**Note 1:** Major thresholds must be greater than minor thresholds.

**Note 2:** For Bit Error Rates, enter only the power of 10 (DACS assumes its sign is negative). For example, for a BER of  $10^{-3}$  (.001), enter 3.

**Note 3:** Slip major and Slip minor threshold crossing alarms may be disabled by programming threshold values of zero for the respective parameters.

For Channelized and Clear-DS1 DA type NPCs with ESF framing, all of the following Near-end and Far-end parameters are valid.

For Channelized and Clear-DS1 DA type NPCs with D4 or T1DM framing, all of the following Near-end parameters are valid, but the only valid Far-end parameter is Unavailable Seconds (rr = 55,71).

For Channelized and Clear-DS1 TA type NPCs with ESF framing, all of the following Near-end Path parameters are valid, but the Near-End Line parameters (rr = 47-49, 63-65) are invalid. All of the following Far-end parameters are valid.

For Channelized and Clear-DS1 TA type NPCs with D4 or T1DM framing, the following Near-end Path parameters are valid, but the Near-End Line parameters

(rr = 47-49, 63-65) are invalid. The only valid Far-end parameter is Unavailable Seconds (rr = 55,71).

| rr | Parameter                                           | Threshold Value Range  | Default Threshold Value |
|----|-----------------------------------------------------|------------------------|-------------------------|
| 41 | Daily Near-end Path Coding Violations               | 000000000 to 134217727 | 132960 <sup>†</sup>     |
| 42 | Daily Near-end Path Errored Seconds                 | 00000 to 86400         | 648                     |
| 43 | Daily Near-end Path Severely Errored Seconds        | 00000 to 86400         | 100                     |
| 44 | Daily Near-end Severely Errored Framing Seconds     | 00000 to 86400         | 17                      |
| 45 | Daily Near-end Controlled Slip Seconds              | 00000 to 86400         | 4                       |
| 46 | Daily Near-end Unavailable Seconds                  | 00000 to 86400         | 10                      |
| 47 | Daily Near-end Line Coding Violations               | 000000000 to 134217727 | 133400                  |
| 48 | Daily Near-end Line Errored Seconds                 | 00000 to 86400         | 648                     |
| 49 | Daily Near-end Line Severely Errored Seconds        | 00000 to 86400         | 100                     |
| 50 | Daily Far-end Path Coding Violations                | 000000000 to 134217727 | 132960 <sup>†</sup>     |
| 51 | Daily Far-end Path Errored Seconds                  | 00000 to 86400         | 648                     |
| 52 | Daily Far-end Path Severely Errored Seconds         | 00000 to 86400         | 100                     |
| 53 | Daily Far-end Severely Errored Framing Seconds      | 00000 to 86400         | 17                      |
| 54 | Daily Far-end Controlled Slip Seconds               | 00000 to 86400         | 4                       |
| 55 | Daily Far-end Unavailable Seconds                   | 00000 to 86400         | 10                      |
| 56 | Daily Far-end Line Errored Seconds                  | 00000 to 86400         | 648                     |
| 57 | 15-Minute Near-end Path Coding Violations           | 0000000 to 2097151     | 13296 <sup>‡</sup>      |
| 58 | 15-Minute Near-end Path Errored Seconds             | 000 to 900             | 65                      |
| 59 | 15-Minute Near-end Path Severely Errored Seconds    | 000 to 900             | 10                      |
| 60 | 15-Minute Near-end Severely Errored Framing Seconds | 000 to 900             | 2                       |
| 61 | 15-Minute Near-end Controlled Slip Seconds          | 000 to 900             | 1                       |
| 62 | 15-Minute Near-end Unavailable Seconds              | 000 to 900             | 10                      |
| 63 | 15-Minute Near-end Line Coding Violations           | 0000000 to 2097151     | 13340                   |
| 64 | 15-Minute Near-end Line Errored Seconds             | 000 to 900             | 65                      |
| 65 | 15-Minute Near-end Line Severely Errored Seconds    | 000 to 900             | 10                      |
| 66 | 15-Minute Far-end Path Coding Violations            | 0000000 to 2097151     | 13296 <sup>‡</sup>      |
| 67 | 15-Minute Far-end Path Errored Seconds              | 000 to 900             | 65                      |
| 68 | 15-Minute Far-end Path Severely Errored Seconds     | 000 to 900             | 10                      |
| 69 | 15-Minute Far-end Severely Errored Framing Seconds  | 000 to 900             | 2                       |
| 70 | 15-Minute Far-end Controlled Slip Seconds           | 000 to 900             | 1                       |
| 71 | 15-Minute Far-end Unavailable Seconds               | 000 to 900             | 10                      |
| 72 | 15-Minute Far-end Line Errored Seconds              | 000 to 900             | 65                      |

<sup>†</sup> The value shown applies to ESF framing and is a count of CRC errors. When the DS1 has D4 or T1DM framing, framing errors are counted and the default Daily value is 691.

<sup>‡</sup> The value shown applies to ESF framing and is a count of CRC errors. When the DS1 has D4 or T1DM framing, framing errors are counted and the default 15-Minute value is 72.

**TYPE** - Type

Type of NPC for which the options are being set. Note that not all parameter threshold options apply to all NPC types.

**mn** - NPC Type prefix

| <i>mn</i> | <i>Explanation</i>          |
|-----------|-----------------------------|
| DA        | FTU ANSI NPC type           |
| DE        | FTU NPC type                |
| DS        | SLC carrier digroup circuit |
| TA        | DS3U ANSI NPC type          |
| TE        | DS3U NPC type               |

**ALL** - All

All NPC types. If specified, the given thresholds will be written into the secondary data base for all types of NPCs for which the associated parameter is valid.

**NPCOP** - Network processing circuit option

**set1** - Threshold setting 1 (m=1) for given parameter rr

**set2** - Threshold setting 2 (m=2) for given parameter rr

**set3** - Threshold setting 3 (m=3) for given parameter rr

Thresholds are entered in free format (1 to 9 digits) separated by commas. Enter a "-" (hyphen) for values that are not to be changed.

For ANSI NPC types (DA and TA type NPCs), a threshold value of zero can be programmed for any parameter to disable threshold crossing alert messages for that parameter.

DACS II provides a set of default threshold values (m=0) for each NPC type. Only the default threshold value for each parameter exists in the DACS II database prior to user programming using the CHG::SETOP command. Before any non-default threshold value (m=1,2,3) can be provisioned to be used by an NPC for performance monitoring, it must be entered in the DACS II database using this command. Otherwise, an error message will occur. When this command is executed, all threshold values in the DACS II frame are changed, including the ones previously set or in use. Performance monitoring thresholds are provisioned for NPCs using the "rr/m" argument of the GRTH::NPC or CHG::NPC command.

The default values are accessed using threshold setting 0. Threshold settings 1, 2, and 3 are user-programmable. That is, set1, set2, and set3 do not have default values; they must be programmed by the user before they can be used.



**ttttt[tttt]**

- Default threshold value for option rr

**aaaaa[aaaa]**

- Old set1 threshold value

**bbbbbb[bbbb]**

- Old set2 threshold value

**cccccc[cccc]**

- Old set3 threshold value

**talm** - Type of alarm

*talm*    *Explanation*

MJ      Major

MN      Minor

**pname** - Parameter name

*pname*                      *Explanation*

BER                      Bit error rate

COFA                    Change of frame alignment

ERS                      Errored seconds

SAFE                    Shelf alarm far end

SANE                    Shelf alarm near end

SERS                    Severely errored seconds

SLIP                     Slip

CSSP,{D|Q}{N|F}

Path Controlled Slip Seconds

CVL,{D|Q}{N|F}

Line Coding Violations

CVP,{D|Q}{N|F}

Path Coding Violations

ESL,{D|Q}{N|F}

Line Errored Seconds

ESP,{D|Q}{N|F}

Path Errored Seconds

SEFS,{D|Q}{N|F}

Severely Errored Framing Seconds

SESL,{D|Q}{N|F}

Line Severely Errored Seconds

SESP,{D|Q}{N|F}

Path Severely Errored Seconds

UASP,{D|Q}{N|F}

Path Unavailable Seconds

D, F, N, and Q are defined below

D- Daily

F- Far-end

N- Near-end

Q- 15 minute

xxxxx[xxxx]

- New set1 threshold value

yyyyy[yyyy]

- New set2 threshold value

zzzzz[zzzz]

- New set3 threshold value

**Note:** If the "TYPE mn" option is used in the input command to change the thresholds for a single NPC type and a hyphen is entered for at least one of the thresholds to preserve its value, the output response will show that the respective new threshold values are unchanged by outputting the same value for the new threshold that is output for the old threshold.

If the "ALL" types option is used in the input command to change the thresholds for all NPC types and a hyphen is entered for at least one set of thresholds to preserve their values, the output response will show that the respective threshold values are unchanged by outputting "-----[----]" (a dash) for the new threshold value and the respective unchanged values in the old threshold fields for each NPC type.

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number of problematic NPC

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical number of problematic NPC

The valid NPC numbers are:

DE, DS, and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                                         |
|-----------|---------------------------------------------------------|
| <b>21</b> | Minor >= major for SLIP opt                             |
| <b>22</b> | Minor <= major for BER opt                              |
| <b>23</b> | Minor >= major for COFA opt                             |
| <b>2B</b> | Maj Min BER threshold is 7, but not in T1DM or Fe mode  |
| <b>14</b> | 1 hr >= 24 hr for DM opt                                |
| <b>15</b> | 15 min >= 24 hr for SERS opt                            |
| <b>16</b> | 15 min >= 24 hr for ERS opt                             |
| <b>17</b> | 15 min >= 24 hr for US opt                              |
| <b>18</b> | 15 min >= 24 hr for SLIP opt                            |
| <b>37</b> | Major/Minor BER threshold value is invalid for SLC NPCs |
| <b>4F</b> | BER must not be less than 4 for Clear DS1               |
| <b>83</b> | Option not programmable for this NPC type               |
| <b>FE</b> | Change to non-ESF digroup with 16-state cross-connect   |

**cc**    *Explanation*

- FF**    Change to T1DM digroup with cross-connect that is not TRSP
- 0A**    Minor Slip threshold disabled before Major Slip threshold
- 32**    Threshold value is out of range

## **CHG,SWCH,TOX,INCL**

---

### **CHANGE CIRCUIT PARAMETERS**

#### **Explanation Of Command**

---

This message switches return paths to the digroups and ranges beginning with the initial channels given in the TO end argument list.

This message requests a change in a broadcast multipoint circuit, switching the full tributary circuit leg (one that can both receive and transmit to the multipoint source) to another leg. Up to eight multipoint circuits can be changed with this command. Arguments [s]abc-ddd, [t]ghi-yyy, and [u]klm-yyy etc., represent TO terminations Arguments [s]abcddd, [t]ghijjj, and [u]klmnnn etc., represent TO terminations from different broadcast circuits (allowing multiple switches to be performed with a single message). That is, these arguments specify the new full tributaries in up to eight different broadcast circuits.

#### **Command**

---

##### **Nonhierarchical**

---

[I.18001]

```
CHG:FRM xy,SEQ ww:SWCH,TOX([s]abcddd[, [t]ghijjj,\n[u]klmnnn, ...])[, INCL]!
```

##### **Hierarchical**

---

[I.18001]

```
CHG:FRM xy,SEQ ww:SWCH,TOX(uvmnpddd[,wxqrrjjj,edhfgnnn, ...])\n[, INCL]!
```

## **Completion Message**

---

### **Nonhierarchical**

---

[O.18001]

M hh:mm:ss xy,ww n[vv] CHG SWCH 3 LN MSG:  
TOX [s]abcddd[, [t]ghijjj, [u]klmnnn, . . .]  
[CUS][ RDC] COMPL

### **Hierarchical**

---

[O.18001]

M hh:mm:ss xy,ww n[vv] CHG SWCH 3 LN MSG:  
TOX uvmnpddd[, wxkqrjjj, edhfgnnn, . . .])  
[CUS][ RDC] COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.18001.01]

M hh:mm:ss xy,ww n[vv] CHG SWCH 3 LN MSG:  
TOX [s]abcddd[, [t]ghijjj, [u]klmnnn, . . .]  
[[t]wxyzzz] cc BCAST DNY

[O.18001.02]

M hh:mm:ss xy,ww n[vv] CHG SWCH 3 LN MSG:  
TOX [s]abcddd[, [t]ghijjj, [u]klmnnn, . . .]  
[[t]wxyzzz] COND cc DNY

### **Hierarchical**

---

[O.18001.01]

M hh:mm:ss xy,ww n[vv] CHG SWCH 3 LN MSG:  
TOX uvmnpddd[, wxkqrjjj, edhfgnnn, . . .])  
[opjstzzz] cc BCAST DNY

[O.18001.02]

M hh:mm:ss xy,ww n[vv] CHG SWCH 3 LN MSG:  
TOX uvmnpddd[,wxkqrjjj,edhfgnnn, . . .])  
[opjstzzz] COND cc DNY

### Autonomous Message

Not applicable.

### Explanation Of Parameters

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number  
[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number  
[u]klm - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |



|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number  
**wxkqr** - Hierarchical TO NPC number  
**edhfg** - Hierarchical TO NPC number

**uv,wx,ed** - Unit number  
**m,k,h** - Module number  
**np,qr,fg** - NPC number within the module

The values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM channel number  
**jjj** - TO channel number  
**nnn** - TO channel number

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**INCL** - Inclusive

To change a circuit or range of circuits including one or more circuits previously marked as a Red Circuit or under Customer Control, use the INCL (inclusive) option. If this option is not used, the message will be denied if any circuits in the range are red circuits or customer controlled.

**SWCH** - Switch

**TOX** - TO Tributaries

**[t]wxyz**

- Nonhierarchical number of circuit leg on which problem occurred.

**opjstzz**

- Hierarchical number of circuit leg on which problem occurred.

**BCAST** - Broadcast

Denial specific to a broadcast conference.

**CUS** - Customer

NPC is a customer-controlled circuit

**RDC** - Red circuit

NPC is a Red circuit

**cc** - Hexadecimal condition code

**cc**    *Explanation*

- 01**    Invalid range for specified NPC type
- 03**    No RDC or CUS circuits and INCL keyword used
- 04**    No NPC's out of service and OOS keyword used
- 10**    NPC out of service or failed
- 11**    NPC not equipped
- 12**    Active CCN side not IS or failed or pested or hardware OOS
- 13**    UNIT not equipped, not in service, or failed
- 14**    CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
- 15**    FTMI not equipped, not in service, or failed
- 16**    FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
- 17**    TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
- 32**    Termination is under test
- 33**    Termination is a test port
- 34**    Termination is under customer control (CUS)
- 35**    Termination is protected (RDC)

**cc**    *Explanation*

- 53**    TO side of two-way to be converted is not an FTU NPC
- 5B**    TO is not a leg of this/any conference
- 5D**    TO is the backbone leg of a conference
- 5F**    Conference is NTR: has no switchable return leg
- 60**    Conference is LPD: has no switchable return leg
- 61**    TO is already the return leg
- 1A**    Required FLI not equipped, not in service, or failed
- 1B**    Required MXR not equipped, not in service, or failed
- 1C**    Req'd FMT not eq'd, not IS, or failed, or inact side FMT not eq'd, or not IS
- 1D**    Required MIU not equipped, not in service, or failed
- D0**    FROM NPC is not provisioned as DGA
- D1**    TO NPC is not provisioned as DGA
- D3**    Corresponding NPC for FROM virtual channel is not provisioned
- D4**    Corresponding NPC for TO virtual channel is not provisioned
- D6**    Invalid FROM channel number
- D7**    Invalid TO channel number
- D9**    Invalid FROM channel number range
- DA**    Invalid TO channel number range
- EC**    Invalid channel 000 cross-connection specified
- ED**    Invalid channel 031 cross-connection specified

## **CHG,SWCH,TOX,INCL**

### **CHANGE SWITCH, TOX**

#### **Explanation Of Command**

This message changes a non-channelized digital signal broadcast circuit by switching a specified tributary network processing circuit (NPC) to be the full tributary NPC. Up to eight broadcast circuits can be changed by specifying the respective full tributary NPCs, all of which are non-channelized NPCs currently part of different broadcast circuits and may belong to different Units.

#### **Command**

##### **Nonhierarchical**

[I.18011]

**CHG:FRM xy,SEQ ww:SWCH,TOX([s]ghi[, [t]jkl][, [v]mno][...])\  
[, INCL]!**

##### **Hierarchical**

[I.18011]

**CHG:FRM xy,SEQ ww:SWCH,TOX(uvmnp[, wxkqr][, edhfg][...])\  
[, INCL]!**

## **Completion Message**

---

### **Nonhierarchical**

---

[O.18011]

M hh:mm:ss xy,ww n[vv] CHG SWCH 3 LN MSG:  
TOX [s]ghi[, [t]jkl][, [v]mno][...]  
[CUS ][RDC ]COMPL

### **Hierarchical**

---

[O.18011]

M hh:mm:ss xy,ww n[vv] CHG SWCH 3 LN MSG:  
TOX uvmnp[,wxkqr][,edhfg][...]  
[CUS ][RDC ]COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.18011.01]

M hh:mm:ss xy,ww n[vv] CHG SWCH 3 LN MSG:  
TOX [s]ghi[, [t]jkl][, [v]mno][...]  
[[t]qrs] cc <st> DNY

### **Hierarchical**

---

[O.18011.01]

M hh:mm:ss xy,ww n[vv] CHG SWCH 3 LN MSG:  
TOX uvmnp[,wxkqr][,edhfg][...]  
[opqrs] cc <st> DNY

## **Autonomous Message**

---

Not applicable.

### Explanation Of Parameters

- [s]ghi** - The 3- or 4-digit nonhierarchical NPC number of new full tributary
- [t]jkl** - The 3- or 4-digit nonhierarchical NPC number of new full tributary
- [v]mno** - The 3- or 4-digit nonhierarchical NPC number of new full tributary

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number of new full tributary  
**wxkqr** - Hierarchical NPC number of new full tributary  
**edhfg** - Hierarchical NPC number of new full tributary



**uv,wx,ed**

- Unit number

**m,k,h**

- Module number

**np,qr,fg**

- NPC number within the module

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**INCL** - Inclusive keyword, required for Red (RDC) or Customer-controlled circuit (CUS)

**[t]qrs** - The 3- or 4-digit nonhierarchical number of the NPC that caused the denial

**opqrs** - Hierarchical number of problematic NPC, same range as uvmnp

**st** - Status of denial

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                    |
|-----------|--------------|-----------------------------------------------------------------------|
| <b>01</b> | <b>INERR</b> | Invalid range for specified NPC type                                  |
| <b>03</b> | <b>INERR</b> | No RDC or CUS circuits and INCL keyword used                          |
| <b>10</b> | <b>MCOND</b> | NPC out of service or failed                                          |
| <b>11</b> | <b>MCOND</b> | NPC not equipped                                                      |
| <b>12</b> | <b>MCOND</b> | Active CCN side not IS or failed or pested or hardware OOS            |
| <b>13</b> | <b>MCOND</b> | UNIT not equipped, not in service, or failed                          |
| <b>14</b> | <b>MCOND</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS |
| <b>15</b> | <b>MCOND</b> | FTMI not equipped, not in service, or failed                          |
| <b>16</b> | <b>MCOND</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS   |
| <b>17</b> | <b>MCOND</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS |
| <b>32</b> | <b>MCOND</b> | Termination is under test                                             |
| <b>34</b> | <b>MCOND</b> | Termination is under customer control (CUS)                           |
| <b>35</b> | <b>MCOND</b> | Termination is protected (RDC)                                        |
| <b>5B</b> | <b>BCAST</b> | TO is not a leg of this/any conference                                |

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                     |
|-----------|--------------|------------------------------------------------------------------------|
| <b>5D</b> | <b>BCAST</b> | TO is the backbone leg of a conference                                 |
| <b>5E</b> | <b>BCAST</b> | TO is a part of the same conference as a previous TO                   |
| <b>5F</b> | <b>BCAST</b> | Conference is NTR: has no switchable return leg                        |
| <b>60</b> | <b>BCAST</b> | Conference is LPD: has no switchable return leg                        |
| <b>61</b> | <b>BCAST</b> | TO is already the return leg                                           |
| <b>63</b> | <b>INERR</b> | NPC is a channelized NPC                                               |
| <b>64</b> | <b>INERR</b> | NPC is a non-channelized NPC                                           |
| <b>1A</b> | <b>MCOND</b> | Required FLI not equipped, not in service, or failed                   |
| <b>1B</b> | <b>MCOND</b> | Required MXR not equipped, not in service, or failed                   |
| <b>1C</b> | <b>MCOND</b> | Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS |
| <b>1D</b> | <b>MCOND</b> | Required MIU not equipped, not in service, or failed                   |
| <b>4A</b> | <b>INERR</b> | Red circuit, INCL not entered                                          |
| <b>4B</b> | <b>INERR</b> | Customer controlled circuit, INCL not entered                          |
| <b>70</b> | <b>MCOND</b> | NPC invalid type                                                       |
| <b>E0</b> | <b>MCOND</b> | ETSI not equipped, not in service, or failed                           |

## **CHG,SYNC,TLI,SSP,TYPE,SRC**

**CHANGE PRIORITIES AND/OR TYPE,  
SYNCHRONIZER OR NPC**

### **Explanation Of Command**

This command changes priorities and type parameters of timing extractor type TLIs/SSPs that have been equipped. One of the following two fields must be given: type/synchronizer sync port or the source for priority (SRC). Only one type may be changed at a time; the output message will show both types after the change command is completed, if both are equipped, or it will show a "-" for unequipped SSPs.

Only the type and priority data bases are affected by this command. The SSP must be out of service for the command to complete. The RST::SYNC,TLI,[SSP]! command must be given to implement the changes for both side 0 and 1.

### **Command**

[I.38011]

**CHG:FRM xy,SEQ ww:SYNC,TLI m,SSP b,TYPE texyz!**

[I.38011]

**CHG:FRM xy,SEQ ww:SYNC,\**  
**TLI,SRC(i/(a,b)[,j/(c,d)[,k/(e,f)[,l/(g,h)]])!]**

### **Completion Message**

[O.38011]

**M hh:mm:ss xy,ww n[vv] CHG SYNC TLI m SSP b TYPE texyz,testu COMPL**

[O.38011]

**M hh:mm:ss xy,ww n[vv] CHG SYNC TLI SRC i,a,b j,c,d k,e,f l,g,h COMPL**

### Denial Message

---

[O.38011.01]

M hh:mm:ss xy,ww n[vv] CHG SYNC \  
TLI m SSP b TYPE tepqr,testu COND cc DNY

[O.38011.01]

M hh:mm:ss xy,ww n[vv] CHG SYNC \  
TLI SRC i,a,b j,c,d k,e,f l,g,h} COND cc DNY

### Autonomous Message

---

Not applicable.

### Explanation Of Parameters

---

**SYNC** - Synchronizer

**TLI** - Timing link interface

**m** - Timing link interface number (1 through 4)

**SSP** - Synchronizer sync port

**b** - SSP side (0 or 1)

**TYPE** - Type

**texyz** - Timing Extractor or Timing Distributor type

The output message shows the type of SSP for both SSPs on the TLI card  
If one SSP is not equipped, a "-" will appear for the unequipped SSP.

**testu** - The TLI type of the other SSP on the same TLI. If not equipped, this  
parameter will be output as "-----".

| <i>te</i> | <i>Explanation</i>                      |
|-----------|-----------------------------------------|
| TC        | Composite Clock Timing Extractor        |
| TE        | DS1 Timing Extractor                    |
| TP        | Primary Block Timing Extractor          |
| TR        | Basic System Reference Frequency (BSRF) |
| TU        | Unipolar Clock Timing Extractor         |
| TD        | Timing Distributor                      |

TD-type TLI xyz fields

- x** - Timing distributor identification
- | <b>x</b> | <i>Explanation</i>                       |
|----------|------------------------------------------|
| <b>1</b> | Composite Clock Timing Distribution      |
| <b>2</b> | Sinusoidal 2.048 MHz Timing Distribution |
- y** - Unassigned
- z** - Unassigned

TE-type TLI xyz fields

- x** - Frame format
- | <b>x</b>    | <i>Explanation</i> |
|-------------|--------------------|
| <b>0</b>    | Invalid            |
| <b>1</b>    | D4 Format          |
| <b>2, 3</b> | ESF Format         |
| <b>4</b>    | DDS (T1DM) Format  |
| <b>5-9</b>  | Invalid            |
- y** - Line format
- | <b>y</b>    | <i>Explanation</i>  |
|-------------|---------------------|
| <b>0, 1</b> | Bipolar Line Coding |
| <b>2</b>    | B8ZS Line Coding    |
| <b>3</b>    | Invalid             |
| <b>4, 5</b> | Bipolar Line Coding |
| <b>6</b>    | B8ZS Line Coding    |
| <b>7-9</b>  | Invalid             |
- z** - Channel format
- | <b>z</b>   | <i>Explanation</i> |
|------------|--------------------|
| <b>0-9</b> | Unassigned         |

TC, TR, and TU-type TLI xyz fields

**x** - Frame format

**y** - Line format

**z** - Channel format

Values for x, y, and z are unassigned.

**SRC** - Source

**i** - TLI slot number (1 through 4)

**a** - TLI i SSP 0 priority (1 through 8)

**b** - TLI i SSP 1 priority (1 through 8)

**j** - TLI slot number (1 through 4)

**c** - TLI j SSP 0 priority (1 through 8)

**d** - TLI j SSP 1 priority (1 through 8)

**k** - TLI slot number (1 through 4)

**e** - TLI k SSP 0 priority (1 through 8)

**f** - TLI k SSP 1 priority (1 through 8)

**l** - TLI slot number (1 through 4)

**g** - TLI l SSP 0 priority (1 through 8)

**h** - TLI l SSP 1 priority (1 through 8)

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

**02** Subject entity is not equipped

**16** SYNC TB is not equipped

**B3** X option is illegal

**B4** Y option is illegal

**C2** SSP type(options) same

**C3** Wrong SSP type(Timing Extractor type)

**C4** Sync architecture different

**C5** Some priority values required

**C6** Some priority values not required

**C7** Priority values are same

**C8** Sync pack denied command

**CA** New NPC same as existing one

**CB** NPC parameter only valid with TU type TLI

**CC** NPC is still provisioned to provide sync timing

**CD** NPC not designated as sync timing source

**CE** NPC already allocated as sync timing source

**F1** Parameter only valid with PA, PB, or PC type NPCs

**cc**    *Explanation*

- 01**    Assignment of single priority to multiple SSPs
- E4**    NPC already has Equipment Loopback

## **CHG,TLA,TLR,TO**

### **CHANGE SUBRATE TERMINATE AND LEAVE**

#### **Explanation Of Command**

This command changes the terminate and leave state of the cross-connection associated with a subrate two-point or multipoint circuit. The termination point is defined in terms of an external facility termination (that is, a digroup, channel, and customer number). If the termination point specified is under test or is not cross-connected, the command will be denied.

The external facility termination given by the NPC, channel, and customer number can be one end of a two-point circuit, or the master leg or branch of a multipoint circuit.

The CHG command cannot be used to change the terminate and leave status of the entire DS0B channel (that is, all customers within the DS0B at once). Also, the CHG command cannot be used to change the terminate and leave status of an external facility termination that is looped on itself.

The termination state resulting from the command depends on the state prior to the command as indicated by the following table:



| PRIOR STATE | REQUESTED CHANGE | NEW STATE | PRIOR STATE | REQUESTED CHANGE | NEW STATE |
|-------------|------------------|-----------|-------------|------------------|-----------|
| R           | TLA F            | F         | R           | TLR F            | DNY       |
| R           | TLA T            | T         | R           | TLR T            | DNY       |
| R           | TLA B            | B         | R           | TLR B            | DNY       |
| F           | TLA F            | DNY       | F           | TLR F            | R         |
| F           | TLA T            | B         | F           | TLR T            | DNY       |
| F           | TLA B            | B         | F           | TLR B            | R         |
| B           | TLA F            | DNY       | B           | TLR F            | T         |
| B           | TLA T            | DNY       | B           | TLR T            | F         |
| B           | TLA B            | DNY       | B           | TLR B            | R         |
| T           | TLA T            | DNY       | T           | T                | R         |
| T           | F                | B         | T           | F                | DNY       |
| T           | B                | B         | T           | B                | R         |

### Command

#### Nonhierarchical

[I.19551]

CHG:FRM xy,SEQ ww:{TLA|TLR} m,TO [s]abcddd[/ff]!

#### Hierarchical

[I.19551]

CHG:FRM xy,SEQ ww:{TLA|TLR} m,TO uvmnpddd[/ff]!

### Completion Message

#### Nonhierarchical

[O.19551]

M hh:mm:ss xy,ww n[vv] CHG {TLA|TLR} m [s]abcddd/ff \  
NEW STATE TLA s COMPL

## **Hierarchical**

---

[O.19551]

M hh:mm:ss xy,ww n[vv] CHG {TLA|TLR} m uvmnpddd/ff \  
NEW STATE TLA s COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.19551.01]

M hh:mm:ss xy,ww n[vv] CHG {TLA|TLR} m [s]abcddd/ff \  
<reason 1> 2 LN MSG:  
<reason 2> DNY

## **Hierarchical**

---

[O.19551.01]

M hh:mm:ss xy,ww n[vv] CHG {TLA|TLR} m uvmnpddd/ff \  
<reason 1> 2 LN MSG:  
<reason 2> DNY

## **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

---

**NEW** - New

**STATE** - State

NEW STATE indicates the new termination state of the circuit as a result of the command. The circuit can be left terminated in either or both directions, or left in the released state.

**TLA** - Terminate and leave activate

**TLR** - Terminate and leave release

The requested termination state change is indicated by the TLA or TLR where TLA activates and TLR releases the terminate and leave state. The unassigned multiplex channel (UMC) code is inserted towards the direction that is terminated.

**m** - Requested termination state

**m** *Explanation*

F FROM. Terminate or release the FROM side  
T TO. Terminate or release the TO side  
B BOTH. Terminate or release BOTH sides

The TO direction is defined as facing towards the external facility termination indicated by the NPC, channel, and customer number. (The TO and FROM directions are the same sides that are connected to the even and odd test port channels, respectively, in the corresponding STST test access command.)

**s** - Resulting termination state of the circuit

**s** *Explanation*

R Neither side is terminated  
F FROM side is terminated  
T TO side is terminated  
B BOTH sides are terminated

**TO** - To

termination

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

|                |                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|----------------|
| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The valid values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - Customer number

**ff** *Explanation*

|       |                                     |
|-------|-------------------------------------|
| 01    | (DS0A at 2.4, 4.8, 9.6, or 56 kb/s) |
| 01-20 | (DS0B at 2.4 kb/s)                  |
| 01-10 | (DS0B at 4.8 kb/s)                  |
| 01-05 | (DS0B at 9.6 kb/s)                  |

The customer number (ff) is optional when the customer is in a DS0A channel. This is because there is only one customer in a DS0A channel. If ff is specified for this type of channel, it must appear as 01. If the specified facility is a DS0B, a customer number must appear.

#### **reason 1**

- Coded reason for denial

#### **reason 2**

- Explanation of reason 1

Reason 1 summarizes the denial reason with a single keyword while reason 2 gives a more detailed explanation.

**reason1**                      **reason2**

|         |                                                                  |
|---------|------------------------------------------------------------------|
| F UEQD  | THE FROM SIDE NPC [s]abc IS NOT EQUIPPED                         |
| T UEQD  | THE TO SIDE NPC [s]abc IS NOT EQUIPPED                           |
| MCOND   | TSI sft IS NOT EQUIPPED                                          |
| MCOND   | CCB sf IS NOT EQUIPPED                                           |
| MCOND   | ETSI sqq IS NOT EQUIPPED                                         |
| MCOND   | UNIT [q]q IS NOT EQUIPPED                                        |
| MCOND   | UNIT [q]q FTMI d IS NOT EQUIPPED                                 |
| MCOND   | UNIT [q]q FC sb IS NOT EQUIPPED                                  |
| MCOND   | NPC [s]abc IS NOT EQUIPPED                                       |
| MCOND   | UNIT [q]q MXR c NOT EQUIPPED                                     |
| MCOND   | NO DSPU IS EQUIPPED                                              |
| MCOND   | NO SRM OR MJU TYPE NPC IS EQUIPPED                               |
| RNGIE   | CHANNEL NUMBER ddd IS OUT OF RANGE FOR<br>NPC [s]abc             |
| CN RATE | CUSTOMER NUMBER ff IS OUT OF RANGE FOR<br>DS0B CHANNEL [s]abcddd |
| CN RATE | CUSTOMER NUMBER ff IS OUT OF RANGE FOR<br>DS0A CHANNEL [s]abcddd |
| PCH     | THE SPECIFIED ACCESS POINT IS A PARITY CHANNEL                   |
| INERR   | THE TO SIDE NPC [s]abc IS NOT FACILITY<br>TERMINATING TYPE       |
| MCOND   | UNIT [q]q IS NOT FACILITY TERMINATING TYPE                       |
| INERR   | TLA CANNOT BE SPECIFIED FOR A LOOPED<br>CHANNEL                  |
| INERR   | CUSTOMER NUMBER MUST BE SPECIFIED FOR<br>DS-0B                   |
| UASGN   | TLA CANNOT BE SPECIFIED FOR AN UNMAPPED<br>CIRCUIT               |
| UASGN   | TLR CANNOT BE SPECIFIED FOR AN UNMAPPED<br>CIRCUIT               |
| NA      | REQUIRED DACS UNIT COULD NOT BE ACCESSED                         |
| MCOND   | BOTH CCN SIDES ARE OUT-OF-SERVICE                                |
| MCOND   | ACTIVE CCN SIDE s IS OUT-OF -SERVICE                             |
| F OOS   | THE FROM SIDE NPC [s]abc IS OUT-OF-SERVICE                       |
| T OOS   | THE TO SIDE NPC [s]abc IS OUT-OF-SERVICE                         |
| MCOND   | CCNI s IS OUT-OF-SERVICE                                         |
| MCOND   | TSI sft IS OUT-OF-SERVICE                                        |
| MCOND   | CCB sf IS OUT-OF-SERVICE                                         |
| MCOND   | CCI s IS OUT-OF-SERVICE                                          |
| MCOND   | ETSI sqq IS OUT-OF-SERVICE                                       |
| MCOND   | UNIT [q]q IS OUT-OF-SERVICE                                      |
| MCOND   | UNIT [q]q FTMI d IS OUT-OF-SERVICE                               |
| MCOND   | UNIT [q]q FC sb IS OUT-OF-SERVICE                                |
| MCOND   | DSPI IN UNIT [q]q IS OUT-OF-SERVICE                              |
| MCOND   | NPC [s]abc SIDE s IS OUT-OF-SERVICE                              |
| MCOND   | UNIT [q]q FLI k IS OUT-OF-SERVICE                                |
| MCOND   | UNIT [q]q FMT s IS OUT-OF-SERVICE                                |
| MCOND   | UNIT [q]q MXR c IS OUT-OF-SERVICE                                |

|            |                                                                |
|------------|----------------------------------------------------------------|
| MCOND      | UNIT [q]q MIU c IS OUT-OF-SERVICE                              |
| MCOND      | ACTIVE CCN SIDE s IS FAILED                                    |
| MCOND      | ACTIVE CCN SIDE s IS PESTED                                    |
| F FAIL     | THE FROM SIDE NPC [s]abc IS FAILED                             |
| T FAIL     | THE TO SIDE NPC [s]abc IS FAILED                               |
| MCOND      | CCNI s IS FAILED                                               |
| MCOND      | TSI sft IS FAILED                                              |
| MCOND      | CCB sf IS FAILED                                               |
| MCOND      | CCI s IS FAILED                                                |
| MCOND      | ETSI sqq IS FAILED                                             |
| MCOND      | UNIT [q]q IS FAILED                                            |
| MCOND      | UNIT [q]q FTMI d IS FAILED                                     |
| MCOND      | UNIT [q]q FC sb IS FAILED                                      |
| MCOND      | DSPI IN UNIT [q]q IS FAILED                                    |
| MCOND      | NPC [s]abc SIDE s IS FAILED                                    |
| MCOND      | UNIT [q]q FLI k IS FAILED                                      |
| MCOND      | UNIT [q]q FMT s IS FAILED                                      |
| MCOND      | UNIT [q]q MXR c IS FAILED                                      |
| MCOND      | UNIT [q]q MIU c IS FAILED                                      |
| UTST       | THE SPECIFIED ACCESS POINT IS UNDER TEST                       |
| CH NOT EST | THE SPECIFIED ACCESS POINT IS NOT<br>ESTABLISHED TO SR FEATURE |
| NTLA       | THE SPECIFIED TEST ACCESS POINT IS ALREADY<br>IN TLA MODE      |
| PTLA       | THE SPECIFIED TEST ACCESS POINT IS ALREADY<br>IN TLA MODE      |



## **CHG,TLA,TLR,TO,MJU**

### **CHANGE TERMINATE AND LEAVE**

#### **Explanation Of Command**

This command changes the terminate and leave state of the master leg or branch associated with a subrate multipoint circuit. This command defines the termination point in terms of a master leg external facility termination, MJU number, and optional branch number. If the termination point specified is under test or is not cross-connected, the command will be denied.

The specified facility termination must be the external facility termination for the master leg of a multipoint circuit. Note that this is *not* the facility defined as the TO side of the circuit. The TO side is always facing towards an MJU defined by ssss.

If MJU 0001 is specified, the TO side faces towards the control leg of MJU 1 and the FROM side faces towards the master leg external facility termination. If an MJU number other than 0001 is specified and the optional BR field is absent, the TO side faces towards the control leg of the specified MJU, and the FROM side faces upstream towards the branch of a cascaded MJU. If the BR field is specified, the TO side faces upstream towards the branch of MJU ssss and the FROM side faces downstream either towards another MJU or towards an external facility termination. The unassigned multiplexer channel (UMC) code is inserted towards the direction that is terminated.

If the termination point specified is under test or is not cross-connected, the command will be denied. The termination state resulting from the command depends on the state prior to the command as indicated by the following table:

| PRIOR<br>STATE | REQUESTED<br>CHANGE | NEW<br>STATE | PRIOR<br>STATE | REQUESTED<br>CHANGE | NEW<br>STATE |
|----------------|---------------------|--------------|----------------|---------------------|--------------|
| R              | TLA F               | F            | R              | TLR F               | DNY          |
| R              | TLA T               | T            | R              | TLR T               | DNY          |
| R              | TLA B               | B            | R              | TLR B               | DNY          |
| F              | TLA F               | DNY          | F              | TLR F               | R            |
| F              | TLA T               | B            | F              | TLR T               | DNY          |

|   |       |     |   |       |     |
|---|-------|-----|---|-------|-----|
| F | TLA B | B   | F | TLR B | R   |
| B | TLA F | DNY | B | TLR F | T   |
| B | TLA T | DNY | B | TLR T | F   |
| B | TLA B | DNY | B | TLR B | R   |
| T | TLA T | DNY | T | T     | R   |
| T | F     | B   | T | F     | DNY |
| T | B     | B   | T | B     | R   |

The customer number (ff) is optional when the master leg customer is in a DS0A channel. This is because there is only one customer in a DS0A channel. If specified for this type of channel, it must appear as 01. If the specified facility is a DS0B, a customer number must appear.

### Command

---

#### Nonhierarchical

---

[I.19561]

CHG:FRM xy,SEQ ww:{TLA|TLR} m,TO [s]abcddd[/ff],MJU ssss\  
[,Bri]!

#### Hierarchical

---

[I.19561]

CHG:FRM xy,SEQ ww:{TLA|TLR} m,TO uvmnpddd[/ff],MJU ssss\  
[,Bri]!

### Completion Message

---

#### Nonhierarchical

---

[O.19561]

M hh:mm:ss xy,ww n[vv] CHG {TLA|TLR} m MPTM [s]abcddd/ff \  
MJU ssss[ Bri] 2 LN MSG:  
NEW STATE TLA s COMPL

### **Hierarchical**

---

[O.19561]

M hh:mm:ss xy,ww n[vv] CHG {TLA|TLR} m MPTM uvmnpddd/ff \  
MJU ssss[ BRi] 2 LN MSG:  
NEW STATE TLA s COMPL

### **Denial Message**

---

### **Nonhierarchical**

---

[O.19561.01]

M hh:mm:ss xy,ww n[vv] CHG {TLA|TLR} m MPTM [s]abcdddd/ff \  
MJU ssss[ BRi] <reason 1> 2 LN MSG:  
<reason 2> DNY

### **Hierarchical**

---

[O.19561.01]

M hh:mm:ss xy,ww n[vv] CHG {TLA|TLR} m MPTM uvmnpddd/ff \  
MJU ssss[ BRi] <reason 1> 2 LN MSG:  
<reason 2> DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**NEW** - New

**STATE** - State

NEW STATE indicates the new termination state of the circuit as a result of the command. The circuit can be left terminated in either or both directions, or left in the released state.

**TLA** - Terminate and leave activate

**TLR** - Terminate and leave release

The requested termination state change is indicated by TLA or TLR, where TLA activates and TLR releases the terminate and leave state.

**s** - Resulting termination state of the circuit:

*s Explanation*

R Neither side is terminated

F FROM side is terminated

T TO side is terminated

B BOTH sides are terminated

**m** - Circuit direction

m specifies the circuit direction affected by the change.

*m Explanation*

F Terminate or release the FROM side

T Terminate or release the TO side

B Terminate or release BOTH sides

**TO** - To

**MPTM** - Multipoint mode

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number of the master leg.

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number of the master leg.

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The valid values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number

The valid values are listed below:

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - Customer number

The valid values are listed below:

|       |                                     |
|-------|-------------------------------------|
| 01    | (DS0A at 2.4, 4.8, 9.6, or 56 kb/s) |
| 01-20 | (DS0B at 2.4 kb/s)                  |
| 01-10 | (DS0B at 4.8 kb/s)                  |
| 01-05 | (DS0B at 9.6 kb/s)                  |

**MJU** - Multipoint junction unit

**ssss** - MJU addressed by this command (0001-9999)

**BR** - Branch

**i** - Branch number of MJU ssss addressed by this command (1-4)

reason 1

- Coded reason for denial

reason 2

- Explanation of reason 1

*Input Errors*

*reason 1*

*reason 2*

|            |                                                                  |
|------------|------------------------------------------------------------------|
| CH NOT EST | THE SPECIFIED ACCESS POINT IS NOT ESTABLISHED TO SR<br>FEATURE   |
| CN RATE    | CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0A<br>CHANNEL [s]abcddd |
| CN RATE    | CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0B<br>CHANNEL [s]abcddd |
| INERR      | CHANNEL [s]abcddd IS NOT A MULTIPOINT MASTER LEG                 |
| INERR      | THE SPECIFIED NPC [s]abc IS NOT FACILITY TERMINATING             |
| INERR      | NPC xxx IS NOT PROVISIONED AS DIGROUP-A OF AN RT                 |
| INERR      | TLA CANNOT BE SPECIFIED FOR A LOOPED ACCESS POINT                |
| INERR      | MJU ssss DOES NOT EXIST IN THE CIRCUIT                           |
| MPTM       | CUSTOMER IS NOT SPECIFIED FOR THE DS-0B CHANNEL                  |
| NTLR       | THE SPECIFIED TEST ACCESS POINT IS ALREADY IN TLA MODE           |
| PCH        | THE SPECIFIED ACCESS POINT IS A PARITY CHANNEL                   |
| PTLA       | THE SPECIFIED ACCESS POINT IS ALREADY IN TLA MODE                |
| NTLA       | THE SPECIFIED ACCESS POINT IS ALREADY IN TLR MODE                |
| UASGN      | TLA CANNOT BE SPECIFIED FOR AN UNMAPPED CIRCUIT                  |
| UASGN      | TLR CANNOT BE SPECIFIED FOR AN UNMAPPED CIRCUIT                  |
| UTST       | THE SPECIFIED ACCESS POINT IS UNDER TEST                         |
| RNGIE      | CHANNEL NUMBER ddd OUT OF RANGE FOR NPC [s]abc                   |



*Maintenance Conditions*

*reason 1reason 2*

|        |                                                                        |
|--------|------------------------------------------------------------------------|
| F UEQD | THE FROM SIDE NPC [s]abc IS NOT EQUIPPED                               |
| F OOS  | THE FROM SIDE NPC [s]abc IS OUT-OF-SERVICE                             |
| F FAIL | THE FROM SIDE NPC [s]abc IS FAILED                                     |
| MCOND  | BOTH CCN SIDES ARE OUT-OF-SERVICE                                      |
| MCOND  | ACTIVE CCN SIDE s IS OUT-OF-SERVICE                                    |
| MCOND  | ACTIVE CCN SIDE s IS FAILED                                            |
| MCOND  | ACTIVE CCN SIDE s IS PESTED                                            |
| MCOND  | NO DSPU IS EQUIPPED                                                    |
| MCOND  | NO SRM OR MJU TYPE NPC IS EQUIPPED                                     |
| MCOND  | INACTIVE CCN SIDE IN-SERVICE AND NPC [s]abc ON<br>INACTIVE SIDE IS OOS |
| MCOND  | CCNI s IS OUT-OF-SERVICE                                               |
| MCOND  | CCNI s IS FAILED                                                       |
| MCOND  | TSI sft IS NOT EQUIPPED                                                |
| MCOND  | TSI sft IS OUT-OF-SERVICE                                              |
| MCOND  | TSI sft IS FAILED                                                      |
| MCOND  | CCB sf IS NOT EQUIPPED                                                 |
| MCOND  | CCB sf IS OUT-OF-SERVICE                                               |
| MCOND  | CCB sf IS FAILED                                                       |
| MCOND  | CCI s IS OUT-OF-SERVICE                                                |
| MCOND  | CCI s IS FAILED                                                        |
| MCOND  | ETSI sqq IS NOT EQUIPPED                                               |
| MCOND  | ETSI sqq IS OUT-OF-SERVICE                                             |
| MCOND  | ETSI sqq IS FAILED                                                     |
| MCOND  | UNIT [q]q IS NOT FACILITY TERMINATING TYPE                             |
| MCOND  | UNIT [q]q IS NOT EQUIPPED                                              |
| MCOND  | UNIT [q]q IS OUT-OF-SERVICE                                            |
| MCOND  | UNIT [q]q IS FAILED                                                    |
| MCOND  | UNIT [q]q FTMI d IS NOT EQUIPPED                                       |
| MCOND  | UNIT [q]q FTMI d IS OUT-OF-SERVICE                                     |
| MCOND  | UNIT [q]q FTMI d IS FAILED                                             |
| MCOND  | UNIT [q]q FC sb IS NOT EQUIPPED                                        |
| MCOND  | UNIT [q]q FC sb IS OUT-OF-SERVICE                                      |
| MCOND  | UNIT [q]q FC sb IS FAILED                                              |
| MCOND  | DSPI IN UNIT [q]q IS OUT-OF-SERVICE                                    |
| MCOND  | DSPI IN UNIT [q]q IS FAILED                                            |
| MCOND  | NPC [s]abc SIDE s IS OUT-OF-SERVICE                                    |
| MCOND  | NPC [s]abc SIDE s IS FAILED                                            |
| T UEQD | THE TO SIDE NPC [s]abc IS NOT EQUIPPED                                 |
| T OOS  | THE TO SIDE NPC [s]abc IS OUT-OF-SERVICE                               |
| T FAIL | THE TO SIDE NPC [s]abc IS FAILED                                       |
| NA     | REQUIRED DACS UNIT COULD NOT BE ACCESSED                               |

## **CHG,TYPE,OPTS**

---

### **CHANGE TYPE, OPTIONS**

#### **Explanation Of Command**

---

This command changes the threshold values for facility performance parameters on all NPCs of a particular type. The threshold values may be changed without disconnecting and reconnecting provisioned circuits.

One or more alarm or information threshold values may be set for all NPCs to a value previously stored in the DACS II threshold data base.

The values stored in the DACS II threshold data base are selected with the indices (**rr/n**).

#### **Command**

---

[I.38231]

**CHG:FRM xy,SEQ ww:TYPE mnxyz,OPTS(rr/m[,rr/m][...])!**

#### **Completion Message**

---

[O.38231]

```
M hh:mm:ss xy,ww n[vv] CHG TYPE mnxyz 4 LN MSG:
      SLIP      BER  ERS      SERS COFA[SANE][SAFE]
THRESHOLDS mmm nnn p q rrrrr sss ttt uuu[xxxxx][zzzzz]
OPTIONS     e  f  g h      i  j  k  l  [m]  [n]  COMPL
```

For ANSI (DA and TA type) NPCs:

[O.38232]

M hh:mm:ss xy,ww n[vv] CHG TYPE mnxyz 4 LN MSG:  
DAILY NE CVP ESP SESP SEFS CSSP UASP CVL ESL SESL  
THRESHOLDS aaaaaaaaaa bbbbbb ccccc dddddd eeeee fffff gggggggggg hhhhh iiiii  
OPTIONS a b c d e f g h i EOM

M hh:mm:ss xy,ww n[vv] CHG TYPE mnxyz 4 LN MSG:  
DAILY FE CVP ESP SESP SEFS CSSP UASP ESL  
THRESHOLDS jjjjjjjjj kkkkk lllll mmmmm nnnnn ooooo ppppp  
OPTIONS j k l m n o p EOM

M hh:mm:ss xy,ww n[vv] CHG TYPE mnxyz 4 LN MSG:  
15MIN NE CVP ESP SESP SEFS CSSP UASP CVL ESL SESL  
THRESHOLDS aaaaaaa bbb ccc ddd eee fff ggggggg hhh iii  
OPTIONS a b c d e f g h i EOM

M hh:mm:ss xy,ww n[vv] CHG TYPE mnxyz 4 LN MSG:  
15MIN FE CVP ESP SESP SEFS CSSP UASP ESL  
THRESHOLDS jjjjjjj kkk lll mmm nnn ooo ppp  
OPTIONS j k l m n o p COMPL

### Denial Message

[O.38231.01]

M hh:mm:ss xy,ww n[vv] CHG TYPE mnxyz[ vv/k] COND cc DNY

### Autonomous Message

Not applicable.

## Explanation Of Parameters

**TYPE** - Type

**mnxyz** - NPC type

**mnxyz** *Explanation*

DExyz FTU DS1 NPC

TExyz DS3U DS1 NPC

DSxyz SLC carrier digroup terminating NPC

DAxyz FTU DS1 ANSI NPC type

TAxyz DS3U DS1 ANSI NPC type

DE-type xyz fields

**x** - Multiframe format for the digroup

**x** *Explanation*

**0** Not assigned

**1** D4

**2** ESF - Voice

**3** ESF - Data

**4** DDST (T1DM - R bit connection via channel 24)

**5-7** Not assigned

**8** Ericsson Cellular format

**9** No framing format, transparent (TRSP), clear-DS1

**y** - Line and signaling format

**y** *Explanation*

**0** ZCS - Zero code suppression

**1\*** NZCS - No zero code suppression

**2\*** B8ZS - Bipolar with 8 zero substitution

**3†** ZBTSI - Zero-bit time-slot interchanger

**4** ZCS/DMI - Zero code suppression/DMI signaling

**5** NZCS/DMI - No zero code suppression/DMI signaling

**6** B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling

**7-9** Not assigned

\* Only options 1 and 2 are applicable to DE-type clear-DS1 NPC.

† Only valid with ESF (x = 2 or 3)

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                     |
|------------|----------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering      |
| <b>1</b>   | D2 channel bank channel numbering      |
| <b>2</b>   | D1D channel bank channel numbering     |
| <b>3-8</b> | Not assigned                           |
| <b>9</b>   | No channel numbering format, clear-DS1 |

DS-type xyz fields

**x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>               |
|------------|----------------------------------|
| <b>0</b>   | Not assigned                     |
| <b>1</b>   | D4                               |
| <b>2</b>   | ESF - Voice                      |
| <b>3</b>   | Not assigned                     |
| <b>4</b>   | Not assigned                     |
| <b>5</b>   | Not assigned                     |
| <b>6</b>   | SLC® 96 carrier Fs               |
| <b>7</b>   | SLC 5 carrier ESF with data link |
| <b>8-9</b> | Not assigned                     |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                      |
|------------|-----------------------------------------|
| <b>0</b>   | Zero code suppression (ZCS)             |
| <b>1</b>   | No zero code suppression (NZCS)         |
| <b>2</b>   | Bipolar with 8 zero substitution (B8ZS) |
| <b>3-9</b> | Not assigned                            |

**z** - Counting sequence format

| <b>z</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | SLC 96 carrier Mode III D4 counting sequence  |
| <b>1</b>   | SLC 96 carrier Mode III D1D counting sequence |
| <b>2</b>   | SLC 96 carrier Mode I D1D counting sequence   |
| <b>3</b>   | SLC Series 5 carrier D4 counting sequence     |
| <b>4-9</b> | Not assigned                                  |

## DA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                        |
|------------|-----------------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                               |
| <b>1*</b>  | NZCS - No zero code suppression                           |
| <b>2*</b>  | B8ZS - Bipolar with 8 zero substitution                   |
| <b>3</b>   | Not assigned                                              |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling             |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling         |
| <b>6</b>   | B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling |
| <b>7-9</b> | Not assigned                                              |

\* Only options 1 and 2 are applicable to DA-type clear-DS1 NPC.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering                |
| <b>1</b>   | D2 channel bank channel numbering                |
| <b>2</b>   | D1D channel bank channel numbering               |
| <b>3-8</b> | Not assigned                                     |
| <b>9</b>   | Unchannelized 193-bit Clear DS1 Cross-connection |

DA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a DA NPC with both a valid framing format (D4, ESF, T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the DA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II FTU, the NPC must be provisioned as NPC type **DE9y9**.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the DA NPC type. If ZBTSI is desired on an NPC in a DACS II FTU, the NPC must be provisioned as a DE NPC type with its **y** option selecting ZBTSI (**DEx3z**).

#### TA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                |
|------------|---------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                       |
| <b>1*</b>  | NZCS - No zero code suppression                   |
| <b>2</b>   | Not assigned                                      |
| <b>3</b>   | Not assigned                                      |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling     |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling |
| <b>6-9</b> | Not assigned                                      |

\* Only option 1 is applicable to TA-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the **y** field if the **x** field is 4 (DDST framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering                |
| <b>1</b>   | D2 channel bank channel numbering                |
| <b>2</b>   | D1D channel bank channel numbering               |
| <b>3-8</b> | Not assigned                                     |
| <b>9</b>   | Unchannelized 193-bit Clear DS1 Cross-connection |

TA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a TA NPC with both a valid framing format (D4,ESF,T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the TA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as NPC type TE919.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the TA NPC type. If ZBTSI is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as a TE NPC type with its **y** option selecting ZBTSI (**TEx3z**).

TE-type xyz fields

**x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | Not assigned                                     |
| <b>1</b>   | D4                                               |
| <b>2</b>   | ESF - Voice                                      |
| <b>3</b>   | ESF - Data                                       |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24)    |
| <b>5-7</b> | Not assigned                                     |
| <b>8</b>   | Ericsson Cellular format                         |
| <b>9</b>   | No framing format, transparent (TRSP), clear-DS1 |



**y** - Line and signaling format

**y** *Explanation*

**0** ZCS - Zero code suppression

**1\*** NZCS - No zero code suppression

**2** Not assigned

**3** Not assigned

**4** ZCS/DMI - Zero code suppression/DMI signaling

**5** NZCS/DMI - No zero code suppression/DMI signaling

**6-9** Not assigned

\* Only option 1 is applicable to TE-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format

**z** *Explanation*

**0** D4 channel bank channel numbering

**1** D2 channel bank channel numbering

**2** D1D channel bank channel numbering

**3-8** Not assigned

**9** No channel numbering format, clear-DS1

**OPTS** - Options

Clear DS1 DE type FTU NPCs have a limited number of parameters for performance monitoring, 01 through 04 only. Clear DS1 TE type DS3U NPCs have only parameters 01 and 02.

**rr** - Facility performance parameter number

Variable rr specifies the parameter whose alarm threshold is being selected

**m** - Facility performance parameter threshold index (0 to 3)

Variable m is used to select threshold values previously programmed for rr. The default threshold value, the value selected by m=0, for each parameter is shown in the table below under the column heading "Default Threshold Value". Threshold values selected by m=1 through m=3 must exist; that is, must have been programmed prior to being selected. The non-default thresholds can be set by using the CHG::SETOP (I.38201) command.

Clear-DS1 ANSI NPCs (DAxy9/TAXy9) provide the same set of path and line performance monitoring parameters that are provided by terminated ANSI NPC types. ANSI NPCs in DS3 Units (TAXyz) do not provide near-end DS1 line performance monitoring parameters.

For DE type NPCs, parameters with values rr = 1 through 8 are valid.  
For DS type NPCs, parameters with values rr = 1 through 10 are valid.  
For TE type NPCs, parameters with values rr = 1 through 8 are valid.  
For Clear-DS1 DE type NPCs, parameters with values rr = 1 through 4 are valid.  
For Clear-DS1 TE type NPCs, parameters with values rr = 1 through 2 are valid.

| rr | Parameter                             | Threshold<br>Value<br>Range | Default<br>Threshold<br>Value |
|----|---------------------------------------|-----------------------------|-------------------------------|
| 01 | Slip major                            | 000 to 255                  | 255                           |
| 02 | Slip minor                            | 000 to 255                  | 4                             |
| 03 | Bit Error Rate major                  | 1E-3* to 1E-6 <sup>†</sup>  | 1E-3*                         |
| 04 | Bit Error Rate minor                  | 1E-3* to 1E-6 <sup>†</sup>  | 1E-6                          |
| 05 | Errored Seconds <sup>‡</sup>          | 00001 to 65535              | 864                           |
| 06 | Severely Errored Seconds <sup>‡</sup> | 001 to 255                  | 225                           |
| 07 | Change of Frame Alignment major       | 001 to 511                  | 511                           |
| 08 | Change of Frame Alignment minor       | 001 to 255                  | 17                            |
| 09 | Shelf Alarm Near End(SANE)§           | 00001 to 65535              | 00000                         |
| 10 | Shelf Alarm Far End(SAFE)§            | 00001 to 65535              | 00000                         |

\* 4 for clear-DS1 NPCs or DS type NPCs (default)

<sup>†</sup> 7 on DE or TE type NPCs using T1DM (x = 4) or ESF (x = 2 or 3) framing

<sup>‡</sup> Only applicable to DE or TE type NPCs using T1DM (x = 4) or ESF (x = 2 or 3) framing

§ Applicable only to DS type NPCs

**Note 1:** Major thresholds must be greater than minor thresholds.

**Note 2:** For Bit Error Rates, enter only the power of 10 (DACS assumes its sign is negative). For example, for a BER of  $10^{-3}$  (.001), enter 3.

**Note 3:** Slip major and Slip minor threshold crossing alarms may be disabled by programming threshold values of zero for the respective parameters.

For Channelized and Clear-DS1 DA type NPCs with ESF framing, all of the following Near-end and Far-end parameters are valid.

For Channelized and Clear-DS1 DA type NPCs with D4 or T1DM framing, all of the following Near-end parameters are valid, but the only valid Far-end parameter is Unavailable Seconds (rr = 55,71).

For Channelized and Clear-DS1 TA type NPCs with ESF framing, all of the following Near-end Path parameters are valid, but the Near-End Line parameters (rr = 47-49, 63-65) are invalid. All of the following Far-end parameters are valid.

For Channelized and Clear-DS1 TA type NPCs with D4 or T1DM framing, the following Near-end Path parameters are valid, but the Near-End Line parameters (rr = 47-49, 63-65) are invalid. The only valid Far-end parameter is Unavailable Seconds (rr = 55,71).

| rr | Parameter                                           | Threshold Value Range  | Default Threshold Value |
|----|-----------------------------------------------------|------------------------|-------------------------|
| 41 | Daily Near-end Path Coding Violations               | 000000000 to 134217727 | 132960 <sup>†</sup>     |
| 42 | Daily Near-end Path Errored Seconds                 | 00000 to 86400         | 648                     |
| 43 | Daily Near-end Path Severely Errored Seconds        | 00000 to 86400         | 100                     |
| 44 | Daily Near-end Severely Errored Framing Seconds     | 00000 to 86400         | 17                      |
| 45 | Daily Near-end Controlled Slip Seconds              | 00000 to 86400         | 4                       |
| 46 | Daily Near-end Unavailable Seconds                  | 00000 to 86400         | 10                      |
| 47 | Daily Near-end Line Coding Violations               | 000000000 to 134217727 | 133400                  |
| 48 | Daily Near-end Line Errored Seconds                 | 00000 to 86400         | 648                     |
| 49 | Daily Near-end Line Severely Errored Seconds        | 00000 to 86400         | 100                     |
| 50 | Daily Far-end Path Coding Violations                | 000000000 to 134217727 | 132960 <sup>†</sup>     |
| 51 | Daily Far-end Path Errored Seconds                  | 00000 to 86400         | 648                     |
| 52 | Daily Far-end Path Severely Errored Seconds         | 00000 to 86400         | 100                     |
| 53 | Daily Far-end Severely Errored Framing Seconds      | 00000 to 86400         | 17                      |
| 54 | Daily Far-end Controlled Slip Seconds               | 00000 to 86400         | 4                       |
| 55 | Daily Far-end Unavailable Seconds                   | 00000 to 86400         | 10                      |
| 56 | Daily Far-end Line Errored Seconds                  | 00000 to 86400         | 648                     |
| 57 | 15-Minute Near-end Path Coding Violations           | 0000000 to 2097151     | 13296 <sup>†</sup>      |
| 58 | 15-Minute Near-end Path Errored Seconds             | 000 to 900             | 65                      |
| 59 | 15-Minute Near-end Path Severely Errored Seconds    | 000 to 900             | 10                      |
| 60 | 15-Minute Near-end Severely Errored Framing Seconds | 000 to 900             | 2                       |
| 61 | 15-Minute Near-end Controlled Slip Seconds          | 000 to 900             | 1                       |
| 62 | 15-Minute Near-end Unavailable Seconds              | 000 to 900             | 10                      |
| 63 | 15-Minute Near-end Line Coding Violations           | 0000000 to 2097151     | 13340                   |
| 64 | 15-Minute Near-end Line Errored Seconds             | 000 to 900             | 65                      |
| 65 | 15-Minute Near-end Line Severely Errored Seconds    | 000 to 900             | 10                      |
| 66 | 15-Minute Far-end Path Coding Violations            | 0000000 to 2097151     | 13296 <sup>†</sup>      |
| 67 | 15-Minute Far-end Path Errored Seconds              | 000 to 900             | 65                      |
| 68 | 15-Minute Far-end Path Severely Errored Seconds     | 000 to 900             | 10                      |

|           |                                                    |            |    |
|-----------|----------------------------------------------------|------------|----|
| <b>69</b> | 15-Minute Far-end Severely Errored Framing Seconds | 000 to 900 | 2  |
| <b>70</b> | 15-Minute Far-end Controlled Slip Seconds          | 000 to 900 | 1  |
| <b>71</b> | 15-Minute Far-end Unavailable Seconds              | 000 to 900 | 10 |
| <b>72</b> | 15-Minute Far-end Line Errored Seconds             | 000 to 900 | 65 |

† The value shown applies to ESF framing and is a count of CRC errors. When the DS1 has D4 or T1DM framing, framing errors are counted and the default Daily value is 691.

‡ The value shown applies to ESF framing and is a count of CRC errors. When the DS1 has D4 or T1DM framing, framing errors are counted and the default 15-Minute value is 72.

- SLIP** - Timing slip
- BER** - Bit error rate
- ERS** - Errored seconds
- SERS** - Severely errored seconds
- COFA** - Change of frame alignment
- SANE** - Shelf Alarm Near End
- SAFE** - Shelf Alarm Far End

#### SLIP

- mmm** - Slip major alarm threshold (0 through 255)
- nnn** - Slip minor alarm threshold (0 through 255)
- e** - Slip major alarm option selection (0 through 3)
- f** - Slip minor alarm option selection (0 through 3)

#### BER (Bit Error Rate)

- p** - BER major alarm threshold, (1E-p, 3\* through 6†)
- q** - BER minor alarm threshold, (1E-q, 3\* through 6†)
  - \* 4 for clear-DS1 FTU NPC or DS type NPC
  - † 7 on T1DM and Fe framing
- g** - BER major alarm option selection (0 through 3)
- h** - BER minor alarm option selection (0 through 3)

#### ERS (Errored Seconds)

- rrrrr** - ERS threshold (1 through 65535)
- i** - ERS option selection (0 through 3)

#### SERS (Severely Errored Seconds)

- sss** - SERS threshold (1 through 255)
- j** - SERS option selection (0 through 3)

COFA (Change of Frame Alignment)

- ttt** - COFA major alarm threshold (1 through 511)
- uuu** - COFA minor alarm threshold (1 through 255)
- k** - COFA major alarm option selection (0 through 3)
- l** - COFA minor alarm option selection (0 through 3)

SANE (Shelf Alarm Near End)

- xxxxx** - SANE alarm threshold (00000 through 65535)
- m** - SANE alarm option selection (0 through 3)

SAFE (Shelf Alarm Far End)

- zzzzz** - SAFE alarm threshold (00000 through 65535)
- n** - SAFE alarm option selection (0 through 3)

**Note:** Major thresholds may not be equal to minor thresholds, except for the BER threshold of SLC® 96 carrier NPCs. For DE type clear-DS1 NPCs only SLIP and BER parameters are listed. For TE type clear-DS1 DS3U NPCs only SLIP parameters are listed. Both SANE and SAFE are applicable only to SLC 96 carrier NPCs.

For ANSI NPC types:

- CVP** - Path Coding Violations
- ESP** - Path Errored Seconds
- SESP** - Path Severely Errored Seconds
- SEFS** - Severely Errored Framing Seconds
- CSSP** - Path Controlled Slip Seconds
- UASP** - Path Unavailable Seconds
- CVL** - Line Coding Violations
- ESL** - Line Errored Seconds
- SESL** - Line Severely Errored Seconds

CVP (Path Coding Violations)

**aaaaaaaa**

- Path Coding Violation Daily NE threshold (0 to 134217727)

**jjjjjjjj**

- Path Coding Violation Daily FE threshold (0 to 134217727)

**aaaaaaa**

- Path Coding Violation 15Min NE threshold (0 to 2097151)

**jjjjjjj**

- Path Coding Violation 15Min FE threshold (0 to 2097151)

**a**

- Path Coding Violation Daily NE option selection (0 to 3)

**j**

- Path Coding Violation Daily FE option selection (0 to 3)

**a**

- Path Coding Violation 15Min NE option selection (0 to 3)

**j**

- Path Coding Violation 15Min FE option selection (0 to 3)

ESP (Path Errored Seconds)

**bbbbbb**

- Path Errored Seconds Daily NE threshold (0 to 86400)

**kkkkkk**

- Path Errored Seconds Daily FE threshold (0 to 86400)

**bbb**

- Path Errored Seconds 15Min NE threshold (0 to 900)

**kkk**

- Path Errored Seconds 15Min FE threshold (0 to 900)

**b**

- Path Errored Seconds Daily NE option selection (0 to 3)

**k**

- Path Errored Seconds Daily FE option selection (0 to 3)

**b**

- Path Errored Seconds 15Min NE option selection (0 to 3)

**k**

- Path Errored Seconds 15Min FE option selection (0 to 3)

SESP (Path Severely Errored Seconds)

**cccccc**

- Path Severely Errored Seconds Daily NE threshold (0 to 86400)

**llllll**

- Path Severely Errored Seconds Daily FE threshold (0 to 86400)

**ccc**

- Path Severely Errored Seconds 15Min NE threshold (0 to 900)

**lll**

- Path Severely Errored Seconds 15Min FE threshold (0 to 900)

**c**

- Path Severely Errored Seconds Daily NE option selection (0 to 3)

**l**

- Path Severely Errored Seconds Daily FE option selection (0 to 3)

**c**

- Path Severely Errored Seconds 15Min NE option selection (0 to 3)

**l**

- Path Severely Errored Seconds 15Min FE option selection (0 to 3)

SEFS (Severely Errored Framing Seconds)

**dddddd**

- Severely Errored Framing Seconds Daily NE threshold (0 to 86400)

**mmmmm**

- Severely Errored Framing Seconds Daily FE threshold (0 to 86400)

**ddd**

- Severely Errored Framing Seconds 15Min NE threshold (0 to 900)

**mmm**

- Severely Errored Framing Seconds 15Min FE threshold (0 to 900)

**d**

- Severely Errored Framing Seconds Daily NE option selection (0 to 3)

**m**

- Severely Errored Framing Seconds Daily FE option selection (0 to 3)

**d**

- Severely Errored Framing Seconds 15Min NE option selection (0 to 3)

**m**

- Severely Errored Framing Seconds 15Min FE option selection (0 to 3)

CSSP (Path Controlled Slip Seconds)

**eeeeee** - Path Controlled Slip Seconds Daily NE threshold (0 to 86400)  
**nnnnn** - Path Controlled Slip Seconds Daily FE threshold (0 to 86400)  
**eee** - Path Controlled Slip Seconds 15Min NE threshold (0 to 900)  
**nnn** - Path Controlled Slip Seconds 15Min FE threshold (0 to 900)  
**e** - Path Controlled Slip Seconds Daily NE option selection (0 to 3)  
**n** - Path Controlled Slip Seconds Daily FE option selection (0 to 3)  
**e** - Path Controlled Slip Seconds 15Min NE option selection (0 to 3)  
**n** - Path Controlled Slip Seconds 15Min FE option selection (0 to 3)

UASP (Path Unavailable Seconds)

**fffff** - Path Unavailable Seconds Daily NE threshold (0 to 86400)  
**ooooo** - Path Unavailable Seconds Daily FE threshold (0 to 86400)  
**fff** - Path Unavailable Seconds 15Min NE threshold (0 to 900)  
**ooo** - Path Unavailable Seconds 15Min FE threshold (0 to 900)  
**f** - Path Unavailable Seconds Daily NE option selection (0 to 3)  
**o** - Path Unavailable Seconds Daily FE option selection (0 to 3)  
**f** - Path Unavailable Seconds 15Min NE option selection (0 to 3)  
**o** - Path Unavailable Seconds 15Min FE option selection (0 to 3)

CVL (Line Coding Violations)

**ggggggggg**  
- Line Coding Violation Daily NE threshold (0 to 134217727)  
**ggggggg**  
- Line Coding Violation 15Min NE threshold (0 to 2097151)  
**g** - Line Coding Violation Daily NE option selection (0 to 3)  
**g** - Line Coding Violation 15Min NE option selection (0 to 3)

ESL (Line Errored Seconds)

**hhhhh** - Line Errored Seconds Daily NE threshold (0 to 86400)  
**ppppp** - Line Errored Seconds Daily FE threshold (0 to 86400)  
**hhh** - Line Errored Seconds 15Min NE threshold (0 to 900)  
**ppp** - Line Errored Seconds 15Min FE threshold (0 to 900)  
**h** - Line Errored Seconds Daily NE option selection (0 to 3)  
**p** - Line Errored Seconds Daily FE option selection (0 to 3)  
**h** - Line Errored Seconds 15Min NE option selection (0 to 3)  
**p** - Line Errored Seconds 15Min FE option selection (0 to 3)



### SESL (Line Severely Errored Seconds)

- iiii** - Line Severely Errored Seconds Daily NE threshold (0 to 86400)
- iii** - Line Severely Errored Seconds 15Min NE threshold (0 to 900)
- i** - Line Severely Errored Seconds Daily NE option selection (0 to 3)
- i** - Line Severely Errored Seconds 15Min NE option selection (0 to 3)

For SHORT INTERVAL, DM is calculated hourly and SERS, ERS, US and SLIP are calculated at 15-minute intervals.

**THMODE** - Thresholding mode (for PA NPCs only)

**hhh** - Thresholding mode option

| <i>hhh</i> | <i>Explanation</i>   |
|------------|----------------------|
| INH        | Inhibit thresholding |
| ALW        | Allow thresholding   |

The INH option is used to temporarily inhibit thresholding for all parameters of all NPCs provisioned with TYPE mxyz whether the thresholding for a specific NPC is already inhibited or not. When it is entered, all thresholds for those NPCs are suspended; therefore, no new threshold crossing messages will be output after the inhibition.

The ALW option is the default option and can be used to turn-off the thresholding inhibition. Note that, this command with the "ALW" option can be used for TYPE mxyz NPCs whose thresholding capability is inhibited due to the entry of command I.38221

When the "ALW" is entered, the thresholds applied before the inhibition will be re-applied unless the thresholds were changed during the inhibition. Option change requests are permitted while the NPC thresholding is inhibited.

**vv/k** - Parameter/option involved in denial

**cc** - Hexadecimal condition code

| <b>cc</b> | <i>Explanation</i>                              |
|-----------|-------------------------------------------------|
| <b>02</b> | Subject entity is not equipped                  |
| <b>10</b> | Unit is not equipped                            |
| <b>11</b> | UC is out of service                            |
| <b>12</b> | UC is in service but failed                     |
| <b>13</b> | FTMI is not equipped                            |
| <b>20</b> | Option rr/m has not been set up on 2nd database |
| <b>21</b> | Minor >= major for SLIP opt                     |
| <b>22</b> | Minor <= major for BER opt                      |
| <b>23</b> | Minor >= major for COFA opt                     |
| <b>2A</b> | DMI combined with T1DM                          |

**cc**    *Explanation*

- 2B**    Maj|Min BER threshold is 7, but not in T1DM or Fe mode
- 4F**    BER must not be less than 4 for Clear DS1
- 83**    Option not programmable for this NPC type
- 44**    Service MXR is not equipped
- 0A**    Minor Slip threshold disabled before Major Slip threshold
- 32**    Threshold value is out of range

## **CHG,UNIT,CONN**

### **CHANGE CONNECTIVITY**

#### **Explanation Of Command**

This command requests a change of a unit's connectivity. Timeslot interchange (TSI) circuit packs will be automatically grown and/ or degrown (deprovisioned) as needed.

New or degrown TSIs are listed at the end of the output message. They are listed pairwise with up to six pairs listed per message line. At most there will be 10 of these pairs when the connectivity of a unit is changed.

#### **Command**

[I.38101]

**CHG:FRM xy,SEQ ww:UNIT q,CONN(a[,b[,c[,d[,e[,f]]]]])!**

### **Completion Message**

---

[O.38101]

M hh:mm:ss xy,ww n[vv] CHG UNIT q CONN a b c d e f \  
5 LN MSG:

TOTAL TSIS tt NEW TSIS nn DEGROWN TSIS dd  
sft sft sft sft sft sft sft sft sft sft  
sft sft sft sft sft sft sft sft sft sft  
sft sft sft sft sft sft sft sft sft sft EOP

M hh:mm:ss xy,ww n[vv] CHG UNIT q CONN a b c d e f \  
5 LN MSG:

TOTAL TSIS tt NEW TSIS nn DEGROWN TSIS dd  
sft sft sft sft sft sft sft sft sft sft  
sft sft sft sft sft sft sft sft sft sft  
sft sft sft sft sft sft sft sft sft sft EOP

M hh:mm:ss xy,ww n[vv] CHG UNIT q CONN a b c d e f \  
5 LN MSG:

TOTAL TSIS tt NEW TSIS nn DEGROWN TSIS dd  
CHANGED TSIS sft sft ... sft sft

.  
.  
.

CHANGED TSIS sft sft ... sft sft COMPL

### **Denial Message**

---

[O.38101.01]

M hh:mm:ss xy,ww n[vv] CHG UNIT q CONN a b c d e f COND cc DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

|                    |                                                                             |
|--------------------|-----------------------------------------------------------------------------|
| <b>UNIT</b>        | - Unit                                                                      |
| <b>[q]q</b>        | - Unit number (1 through 16)                                                |
| <b>TSI</b>         | - Time slot interchange                                                     |
| <b>CONN</b>        | - Connectivity                                                              |
| <b>a b c d e f</b> | - The new complement of the subject unit's TSIs is changed to (1 through 6) |
| <b>tt</b>          | - Total number of grown TSIs in frame (02 through 72)                       |
| <b>nn</b>          | - Number of TSIs grown by command (00 through 10)                           |
| <b>dd</b>          | - Number of TSIs degrown by command (00 through 10)                         |
| <b>sft</b>         | - TSI equipped status                                                       |
| <b>s</b>           | - Service side (0 or 1)                                                     |
| <b>f</b>           | - FROM unit number<br>1 through 6 if equipped<br>- if not equipped          |
| <b>t</b>           | - TO unit number<br>1 through 6 if equipped<br>- if not equipped            |
| <b>cc</b>          | - Hexadecimal condition code                                                |
| <b>cc</b>          | <i>Explanation</i>                                                          |
| <b>02</b>          | Subject entity is not equipped                                              |
| <b>27</b>          | Illegal connectivity specified                                              |
| <b>28</b>          | Connectivity contains unequipped units                                      |
| <b>80</b>          | Some TSIs to degrow are in service                                          |
| <b>3E</b>          | Mapped slots exist on a tsi                                                 |

## **CHG,UNIT,DS3,BERM,BERT,LBO,TYPE**

### **CHANGE DS3 PARAMETERS**

#### **Explanation Of Command**

For one or more DS3 facilities, this command requests and reports a change in any of the following parameters:

BERM Bit error rate calculation method      BERT Bit error rate threshold  
for declaring high BER condition.      LBO The line build-out setting  
TYPE The DS3 facility type and framing format

At least one of the optional parameters must be supplied.

One output message will be generated for each DS3 termination.

#### **Command**

[I.38601]

CHG:FRM xy,SEQ ww:UNIT [q]q,DS3 c[-d][,BERM s][,BERT t]\  
[,LBO <b>][,TYPE mnxyz]!

#### **Completion Message**

[O.38601]

|                        |     |       |      |      |   |      |    |           |
|------------------------|-----|-------|------|------|---|------|----|-----------|
| M hh:mm:ss xy,ww n[vv] | CHG | UNIT  | [q]q | DS3  | a | 4    | LN | MSG:      |
|                        |     | TYPE  |      | BERM |   | BERT |    | LBO       |
| PARAMETER              |     | mnxyz |      | s    |   | t    |    | <b>       |
| OLD PARAMETER          |     | mñxyz |      | ś    |   | ť    |    | <đ> COMPL |

### Denial Message

---

[O.38601.01]

M hh:mm:ss xy,ww n[vv] CHG UNIT [q]q DS3 a 2 LN MSG:  
[BERM s ][BERT t ][LBO <b> ][TYPE mnxyz ]COND cc DNY

### Autonomous Message

---

Not applicable.

### Explanation Of Parameters

---

**UNIT** - Unit

[q]q - Unit number (1 through 16)

**DS3** - Digital signal 3 (44.736 Mb/s rate)

**c** - DS3 facility number within the unit (1 through 6)

**d** - DS3 facility number within the unit (1 through 6)

Variable d is used to specify a range of facilities

**a** - DS3 number within the range of c and d

**BERM** - Bit error rate calculation method

**s** - BERM specification

s *Explanation*

B Bipolar violations

P DS3 parity errors

**BERT** - Bit error rate threshold

For declaring high BER condition

**t** - BERT specification

t *Explanation*

3 Corresponds to threshold of  $10^{-3}$

6 Corresponds to threshold of  $10^{-6}$

**LBO** - Line buildout

**b** - LBO specification

*b*      *Explanation*

ON      Line build-out is turned on

OFF      Line build-out is turned off

LBO is required as shown in the following table.

734A Cabling to DSX-3      KS-19224,L2 Cabling to DSX-3LBO

0 to 225 feet      0 to 75 feet      ON

225 to 450 feet      75 to 150 feet      OFF

**Note:** LBO <b> may be used to change the LBO setting of an in-service, traffic-carrying Multiplexer-Multiplexer Interface Unit (MMFG).

**TYPE** - Type

**mnxyz** - The requested DS3 format that will be processed by the MXR

**mn** - DS3 facility type

*mn*      *Explanation*

MX      The original Release 4.0 DS3 facility type supported by the Multiplexer (MXR) circuit pack

EX      The enhanced Release 6.0 DS3 facility type supported by the Enhanced Multiplexer (EMXR) circuit pack

Default is the MX type for backward compatibility

**x** - DS3 framing format

*x*      *Format*

1      M13 format.(default)

2      C-bit parity format

**y** - Not assigned (the only valid value is 0)

**z** - Not assigned (the only valid value is 0)

**mnxyz** - old DS3 facility type and DS3 format

**s** - old BER calculation method

**t** - old BER threshold

<b> - old Line Build Out



**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                       |
|-----------|---------------------------------------|
| <b>10</b> | Unit is not equipped                  |
| <b>11</b> | UC is out of service                  |
| <b>12</b> | UC is in service but failed           |
| <b>24</b> | Unit type error                       |
| <b>90</b> | Invalid change parameter combinations |
| <b>9B</b> | The MXR is not grown                  |
| <b>AE</b> | MXR is failed                         |
| <b>50</b> | Invalid MIU/MXR type specified        |
| <b>51</b> | The pair MXR is not equipped          |
| <b>56</b> | The MXR is in service                 |

## **CHG,UNIT,FTMI,EQL**

### **CHANGE FTMI EQUALIZATION**

#### **Explanation Of Command**

This message requests changing the equalization of a half or a whole facility terminating module (FTM) and its associated interface, the FTMI.

#### **Command**

[I.38111]

CHG:FRM xy,SEQ ww:UNIT [q]q,FTMI d,EQL(l,r)!

#### **Completion Message**

[O.38111]

M hh:mm:ss xy,ww n[vv] CHG UNIT [q]q FTMI d 2 LN MSG:  
EQL k p NEW STATE EQL m s COMPL

#### **Denial Message**

[O.38111.01]

M hh:mm:ss xy,ww n[vv] CHG UNIT [q]q FTMI d EQL l r \  
COND cc DNY

#### **Autonomous Message**

Not applicable.

## Explanation Of Parameters

- UNIT** - Unit
- [q]q** - Unit number (1 through 16)
- FTMI** - Facility terminating module interface
- d** - FTMI number in the DACS II unit (1 through 4)
- EQL** - Equalization
- l** - Left half shelf equalization value (first 10 Dual Digroup Circuits)
- r** - Right half shelf equalization value (second 10 Dual Digroup Circuits)

Enter a dash for an equalization value if that value is not to be changed.

Equalization option values for 255AS/24 gauge cable

| <i>l</i> | <i>Explanation</i>         |
|----------|----------------------------|
| 1        | 000 to 100 feet            |
| 2        | 100 to 200 feet            |
| 3        | 200 to 300 feet            |
| 4        | 300 to 400 feet            |
| 5        | 400 to 500 feet            |
| -        | Do not change equalization |

Equalization option values for 600 series/22 gauge cable

| <i>l</i> | <i>Explanation</i>         |
|----------|----------------------------|
| 1        | 000 to 050 feet            |
| 2        | 051 to 267 feet            |
| 3        | 268 to 400 feet            |
| 4        | 401 to 533 feet            |
| 5        | 534 to 655 feet            |
| -        | Do not change equalization |

Equalization option values for 1249/26 gauge cable

| <i>l</i> | <i>Explanation</i>         |
|----------|----------------------------|
| <i>r</i> |                            |
| 1        | 000 to 090 feet            |
| 2        | 090 to 180 feet            |
| 3        | 180 to 270 feet            |
| 4        | 270 to 360 feet            |
| 5        | 360 to 450 feet            |
| -        | Do not change equalization |

If a number is entered for *l* and/or *r*, the equalization option of each half will be changed to the value associated with that number whether the option was previously specified or not. If a dash (-) is entered for *l* or *r* the existing equalization option used for the corresponding half will continue to be applied; that is, the option will be unchanged. However, the command will be denied if dashes (-) are entered for both *l* and *r*.

**k, p** - Equalization options before change

**m, s** - Equalization options after change

*k* and *m* apply to the left half of shelf, that is, the first 10 DDCs in the shelf

*p* and *s* apply to the right half of shelf, that is, the second 10 DDCs in the shelf

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                  |
|-----------|----------------------------------|
| <b>02</b> | Subject entity is not equipped   |
| <b>04</b> | Subject entity is out of service |
| <b>10</b> | Unit is not equipped             |
| <b>11</b> | UC is out of service             |
| <b>12</b> | UC is in service but failed      |
| <b>0E</b> | No equalization for CEPT FTMI    |

## **CHG,USER,LINK,INCL,SCR,GR,MCON,MCOFF**

### **CHANGE USER/LINK SCREENING**

#### **Explanation Of Command**

This command assigns the output message screening for a user or administrative link, including all virtual circuits in a X.25 link, on the DACS II system.

The command can also assign default values to the link options.

The function is denied if the user identification does not exist.

Output from this command is sent only to the link on which the command was input.

#### **Command**

[I.38401]

```
CHG:FRM xy,SEQ ww:{USER <user id>|LINK j[mm][,INCL]}\  
[,SCR n[,GR(a,b,c,d,e,f)]][, {MCON|MCOFF}][,INIT]!
```

#### **Completion Message**

[O.38401]

```
M hh:mm:ss xy,ww n[vv] CHG {USER <user id>|LINK j[mm][,INCL]}\  
[ SCR n[ GR(a,b,c,d,e,f)]] [ {MCON|MCOFF}][ INIT] COMPL
```

## Denial Message

---

[O.38401.01]

M hh:mm:ss xy,ww n[vv] CHG {USER <user id>|LINK j[mm][,INCL]} \  
[ SCR n[ GR(a,b,c,d,e,f)]] [ {MCON|MCOFF}][ INIT] COND cc DNY

## Autonomous Message

---

Not applicable.

## Explanation Of Parameters

---

**USER** - User

### user id

- User identifier (two to eight alphabetic characters)  
User login identification

**LINK** - Link

**j [mm]** - Administrative link number

**j** - Physical link number (1 through 6)

**mm** - Virtual circuit number (01 through 16, for l = 5 or 6)

If mm is specified, pp must be specified as 01.

**INCL** - Include

Include virtual circuits of links 5 and 6. The INCL keyword can only be entered with X.25 links 5 and 6, and no virtual circuit number is allowed when this keyword is used. That is, "mm" and "INCL" are mutually exclusive. In addition, the INCL keyword is also mutually exclusive with the "<user id>". When the INCL keyword is entered, it means that all provisioning data specified in this command, for example, SCR n, GR(a,b,c,d,e,f), and MCON/MCOFF, will be applied to all virtual circuits of the link (5 or 6).

**SCR** - Screening

**n** - Screening option number (1 through 5)

The screening option is used to limit responses on a given administrative link to one of the sets given in the table below. The set to be received is selected by the use of variable "n".

| <i>n</i> | <i>Explanation</i>                                                                                                  |
|----------|---------------------------------------------------------------------------------------------------------------------|
| 1        | Responses to input at the same link.                                                                                |
| 2        | Responses to input at the same link and autonomous messages.<br>This is the default value.                          |
| 3        | Responses to messages input at the same link and some specified sets of action verbs.                               |
| 4        | Responses to messages input at the same link and some specified sets of action verbs including autonomous messages. |
| 5        | Responses to input messages on all links and autonomous messages                                                    |

**GR** - Group

**a, b, c, d, e, f**

- Screening groups a through f (0 or 1)

The entry of the screening group option is allowed only if n = 3 or 4 was entered for the screening option number. The screening group option will not apply for n = 2; the default screening option. The restricted commands are not categorized by group and are always assigned the screening group value "1".

| <i>a*</i> | <i>Explanation</i>                                                                                                       |
|-----------|--------------------------------------------------------------------------------------------------------------------------|
| 0         | Messages in the message group represented by variable a will not be sent to the link or user specified in this command.  |
| 1         | Messages in the message group represented by variable a will also be sent to the link or user specified in this command. |
| -         | Do not change the screening group option for variable a.                                                                 |

\* This table applies also to variables b through f.

DACS II has six groups of action verbs represented in this message by variables a, b, c, d, e, and f. The following table defines the variables assigned to each action verb.

| a<br>Circuit<br>Prov. | b<br>Equipment<br>Prov. | c<br>Maintenance | d<br>Test<br>Access | e<br>Monitoring | f<br>Common |
|-----------------------|-------------------------|------------------|---------------------|-----------------|-------------|
| TCON                  | GRTH                    | RMV              | TTST                | AUD             | CHG         |
| TDIS                  | DGRTH                   | RST              | STST                | UTL             | ED          |
| TCNT                  | ADD                     | DGN              |                     |                 | EXC         |
| BCON                  | DLT                     | CFR              |                     |                 | ACT         |
| BDIS                  |                         |                  |                     |                 | ADD         |
| OCON                  |                         |                  |                     |                 | DELETE      |
| ODIS                  |                         |                  |                     |                 | LIST        |
| OCNT                  |                         |                  |                     |                 | TOTAL       |
| SW                    |                         |                  |                     |                 |             |
| CONF                  |                         |                  |                     |                 |             |
| SECH                  |                         |                  |                     |                 |             |
| SDCH                  |                         |                  |                     |                 |             |
| SCON                  |                         |                  |                     |                 |             |
| SCNT                  |                         |                  |                     |                 |             |
| SDIS                  |                         |                  |                     |                 |             |

**MCON** - Macro on

Macro completion message screening ON. MCON is the default value.

**MCOFF** - Macro off

Macro completion message screening OFF

The MCON/MCOFF options are used to turn on or off the completion messages of the component commands inside a macro during its execution.

**INIT** - Initialize

Initialize the link or user options; all parameters are set to their default values except those specified in the command.

**cc** - Hexadecimal condition code

**cc** *Explanation*

- D3** User does not exist
- D7** Cannot execute privileged command
- DF** Command and protocol are inconsistent
- E1** Virtual circuit is not specified for X.25 link
- E2** Invalid link number specified
- E3** Invalid keyword(s) combination specified
- 41** Language "F" provisioned for this channel
- 83** Language is not allowed



## **CI,ECI,RESET**

### **STARTUP**

#### **Explanation Of Command**

DACS II outputs this message immediately after a hardware reset. The message notifies remote systems by the major alarm state (indicated by \*\*) that the frame has reset.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01201]

**\*\*{CI|ECI} RESET**

### **Explanation Of Parameters**

---

**CI** - Communications interface

**ECI** - Enhanced communications interface

**RESET** - Reset

Indicates a hardware reset of the frame

## **CI,ECI,STARTUP,STF,ATP**

### **STARTUP**

#### **Explanation Of Command**

The communications interface or enhanced communications interface has initialized itself and has performed self-diagnostics. The results of these diagnostics are reported as some tests failed or all tests passed.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01211]

{CI|ECI} STARTUP {STF|ATP}

### **Explanation Of Parameters**

---

**CI** - Communications interface

**ECI** - Enhanced communications interface

**STARTUP**

- Startup

Indicates initialization

**STF** - Some tests failed

**ATP** - All tests passed

## **CMD,MC,OOS,MCOND,INSERVICE,MPDBASE**

### **INPUT DENIAL**

#### **Explanation Of Command**

This autonomous message indicates that processing of the input message is **STOPPED** because the main controller is either out of service, in maintenance condition, in service, or the main processor data base is not loaded.

Output from this command is sent only to the link on which the command was input.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01111]

M hh:mm:ss xy,ww n[vv] CMD MC {OOS|MCOND|INSERVICE|MPDBASE} \

e LN MSG:

<First 70 characters of input message.>

<Remaining text of input message> STOPPED

### **Explanation Of Parameters**

---

**e** - Number of lines in message

**OOS** - Out-of-service

**MCOND** - Maintenance condition

**INSERVICE**  
- In-service

**MPDBASE**  
- MP data base  
The main processor data base is not loaded

**STOPPED**  
- Stopped

## **COPY,NPC,TO**

### **COPY NPC**

#### **Explanation Of Command**

This command is used to copy provisioning information from a previously provisioned network processing circuit (NPC) to an NPC to be provisioned (the destination NPC). It is used for domestic NPC types DE, TE, DA, TA, and DS. Copying is limited to the combinations given below:

- DE to DE or TE
- TE to TE or DE
- DA to DA or TA
- TA to TA or DA
- DS to DS

When the parameters of the source (previously provisioned) NPC type do not apply to the destination NPC type, such parameters and their values will be not be copied to the destination NPC type; the destination NPC will ignore them. When there are no parameters of the source NPC type that apply to the destination NPC type, the destination NPC type will assume its default values for those parameters.

One output message is printed for each NPC successfully copied and provisioned.

When a range address crosses a Unit boundary, the command will be denied.

When an NPC range specified within a Unit crosses a Facility Terminating Module (FTM) boundary and the FTM type differs from that specified in this command then that FTM will be skipped and a summary denial message will be output. This message will give the range of NPCs for which the denial is effective and the reason for the denial. The NPC range covers successive NPCs in the range that are denied for the same reason.

Execution of the command then resumes at the NPC following the last one in the summary denial message and continues to the end of the specified range.

No insertion word will appear in the output message if the NPC is a clear DS1 type (types DE9y9, DA9y9, TE9y9 and TA9y9).

## Command

### Nonhierarchical

[I.31521]

**COPY:FRM xy,SEQ ww:NPC [s]abc,TO [t]def[-[u]ghi]!**

### Hierarchical

[I.31521]

**COPY:FRM xy,SEQ ww:NPC uvmnp,TO wxkqr[-ghikl]!**

## Completion Message

### Nonhierarchical

If the destination NPC is DE or TE type, the output format is:

[O.31521]

**M hh:mm:ss xy,ww n[vv] COPY [s]jkl TYPE mnxyz [IW pq] AIS {INFO|MJ|MN}\**  
**4 LN MSG:**

|                   |             |     |            |  |            |  |             |  |             |
|-------------------|-------------|-----|------------|--|------------|--|-------------|--|-------------|
|                   | <b>SLIP</b> |     | <b>BER</b> |  | <b>ERS</b> |  | <b>SERS</b> |  | <b>COFA</b> |
| <b>THRESHOLDS</b> | mmm         | nnn | p q        |  | rrrrr      |  | sss         |  | ttt uuu     |
| <b>OPTIONS</b>    | e           | f   | g h        |  | i          |  | j           |  | k l COMPL   |

If the destination NPC is DA or TA type, the output format is:



[O.31521]

```
M hh:mm:ss xy,ww n[vv] COPY [s]jkl TYPE mnxyz [IW pq]\
  AIS {INFO|MJ|MN} PL {ENA|DSA} 4 LN MSG:
DAILY NE      CVP      ESP      SESP      SEFS      CSSP      UASP      CVL      ESL      SESL
THRESHOLDS    aaaaaaaa bbbbbb ccccc ddddd eeeee fffff gggggggg hhhhh iiiii
OPTIONS       a         b         c         d         e         f         g         h         i         EOM
```

```
M hh:mm:ss xy,ww n[vv] COPY [s]jkl TYPE mnxyz [IW pq]\
  AIS {INFO|MJ|MN} PL {ENA|DSA} 4 LN MSG:
DAILY FE      CVP      ESP      SESP      SEFS      CSSP      UASP      ESL
THRESHOLDS    jjjjjjjj kkkkk lllll mmmmm nnnnn ooooo ppppp
OPTIONS       j         k         l         m         n         o         p         EOM
```

```
M hh:mm:ss xy,ww n[vv] COPY [s]jkl TYPE mnxyz [IW pq]\
  AIS {INFO|MJ|MN} PL {ENA|DSA} 4 LN MSG:
15MIN NE      CVP      ESP      SESP      SEFS      CSSP      UASP      CVL      ESL      SESL
THRESHOLDS    aaaaaaa bbb   ccc   ddd   eee   fff   gggggggg hhh   iii
OPTIONS       a         b         c         d         e         f         g         h         i         EOM
```

```
M hh:mm:ss xy,ww n[vv] COPY [s]jkl TYPE mnxyz [IW pq]\
  AIS {INFO|MJ|MN} PL {ENA|DSA} 4 LN MSG:
15MIN FE      CVP      ESP      SESP      SEFS      CSSP      UASP      ESL
THRESHOLDS    jjjjjjj kkk   lll   mmm   nnn   ooo   ppp
OPTIONS       j         k         l         m         n         o         p         COMPL
```

If the segment header exceeds 80 characters, the output format is:

[O.31521]

```
M hh:mm:ss xy,ww n[vv] COPY [s]jkl TYPE mnxyz 5 LN MSG:
[IW pq] AIS {INFO|MJ|MN} PL {ENA|DSA}
DAILY NE      CVP      ESP      SESP      SEFS      CSSP      UASP      CVL      ESL      SESL
THRESHOLDS    aaaaaaaa bbbbbb ccccc ddddd eeeee fffff gggggggg hhhhh iiiii
OPTIONS       a         b         c         d         e         f         g         h         i         EOM
```

```
M hh:mm:ss xy,ww n[vv] COPY [s]jkl TYPE mnxyz 5 LN MSG:
[IW pq] AIS {INFO|MJ|MN} PL {ENA|DSA}
DAILY FE      CVP      ESP      SESP      SEFS      CSSP      UASP      ESL
THRESHOLDS    jjjjjjjj kkkkk lllll mmmmm nnnnn ooooo ppppp
OPTIONS       j         k         l         m         n         o         p         EOM
```

```
M hh:mm:ss xy,ww n[vv] COPY [s]jkl TYPE mnxyz 5 LN MSG:
[IW pq] AIS {INFO|MJ|MN} PL {ENA|DSA}
15MIN NE      CVP      ESP      SESP      SEFS      CSSP      UASP      CVL      ESL      SESL
THRESHOLDS    aaaaaaa bbb   ccc   ddd   eee   fff   gggggggg hhh   iii
OPTIONS       a         b         c         d         e         f         g         h         i         EOM
```

```
M hh:mm:ss xy,ww n[vv] COPY [s]jkl TYPE mnxyz 5 LN MSG:
[IW pq] AIS {INFO|MJ|MN} PL {ENA|DSA}
15MIN FE      CVP      ESP      SESP      SEFS      CSSP      UASP      ESL
THRESHOLDS    jjjjjjj kkk   lll   mmm   nnn   ooo   ppp
OPTIONS       j         k         l         m         n         o         p         COMPL
```

If the destination NPC is DS type, the output format is:

[O.31521]

M hh:mm:ss xy,ww n[vv] COPY [s]jkl TYPE DSxyz [IW pq] \  
4 N MSG:

|            | SLIP | BER | ERS | SERS | COFA  | SANE | SAFE |       |
|------------|------|-----|-----|------|-------|------|------|-------|
| THRESHOLDS | mmm  | nnn | p   | q    | rrrrr | sss  | ttt  | uuu   |
| OPTIONS    | e    | f   | g   | h    | i     | j    | k    | l     |
|            |      |     |     |      |       |      | v    | w     |
|            |      |     |     |      |       |      |      | COMPL |

## Hierarchical

If the destination NPC is DE or TE type, the output format is:

[O.31521]

M hh:mm:ss xy,ww n[vv] COPY uvjkl TYPE mnxyz [IW pq] AIS {INFO|MJ|MN}\  
4 LN MSG:

|            | SLIP | BER | ERS | SERS | COFA  |       |
|------------|------|-----|-----|------|-------|-------|
| THRESHOLDS | mmm  | nnn | p   | q    | rrrrr | sss   |
| OPTIONS    | e    | f   | g   | h    | i     | j     |
|            |      |     |     |      |       | k     |
|            |      |     |     |      |       | l     |
|            |      |     |     |      |       | COMPL |

If the destination NPC is DA or TA type, the output format is:

[O.31521]

M hh:mm:ss xy,ww n[vv] COPY uvjkl TYPE mnxyz [IW pq]\  
AIS {INFO|MJ|MN} PL {ENA|DSA} 4 LN MSG:

| DAILY NE   | CVP      | ESP    | SESP   | SEFS  | CSSP  | UASP   | CVL       | ESL   | SESL |
|------------|----------|--------|--------|-------|-------|--------|-----------|-------|------|
| THRESHOLDS | aaaaaaaa | bbbbbb | cccccc | ddddd | eeeee | ffffff | ggggggggg | hhhhh | iiii |
| OPTIONS    | a        | b      | c      | d     | e     | f      | g         | h     | i    |
|            |          |        |        |       |       |        |           |       | EOM  |

M hh:mm:ss xy,ww n[vv] COPY uvjkl TYPE mnxyz [IW pq]\  
AIS {INFO|MJ|MN} PL {ENA|DSA} 4 LN MSG:

| DAILY FE   | CVP       | ESP   | SESP  | SEFS  | CSSP  | UASP  | ESL   |
|------------|-----------|-------|-------|-------|-------|-------|-------|
| THRESHOLDS | jjjjjjjjj | kkkkk | lllll | mmmmm | nnnnn | ooooo | ppppp |
| OPTIONS    | j         | k     | l     | m     | n     | o     | p     |
|            |           |       |       |       |       |       | EOM   |

M hh:mm:ss xy,ww n[vv] COPY uvjkl TYPE mnxyz [IW pq]\  
AIS {INFO|MJ|MN} PL {ENA|DSA} 4 LN MSG:

| 15MIN NE   | CVP            | ESP        | SESP       | SEFS       | CSSP       | UASP       | CVL            | ESL        | SESL       |
|------------|----------------|------------|------------|------------|------------|------------|----------------|------------|------------|
| THRESHOLDS | <u>aaaaaaa</u> | <u>bbb</u> | <u>ccc</u> | <u>ddd</u> | <u>eee</u> | <u>fff</u> | <u>ggggggg</u> | <u>hhh</u> | <u>iii</u> |
| OPTIONS    | <u>a</u>       | <u>b</u>   | <u>c</u>   | <u>d</u>   | <u>e</u>   | <u>f</u>   | <u>g</u>       | <u>h</u>   | <u>i</u>   |
|            |                |            |            |            |            |            |                |            | EOM        |

M hh:mm:ss xy,ww n[vv] COPY uvjkl TYPE mnxyz [IW pq]\  
AIS {INFO|MJ|MN} PL {ENA|DSA} 4 LN MSG:

| 15MIN FE   | CVP            | ESP        | SESP       | SEFS       | CSSP       | UASP       | ESL        |
|------------|----------------|------------|------------|------------|------------|------------|------------|
| THRESHOLDS | <u>jjjjjjj</u> | <u>kkk</u> | <u>lll</u> | <u>mmm</u> | <u>nnn</u> | <u>ooo</u> | <u>ppp</u> |
| OPTIONS    | <u>j</u>       | <u>k</u>   | <u>l</u>   | <u>m</u>   | <u>n</u>   | <u>o</u>   | <u>p</u>   |
|            |                |            |            |            |            |            | COMPL      |

If the segment header exceeds 80 characters, the output format is:

[O.31342]

```
M hh:mm:ss xy,ww n[vv] COPY uvjkl TYPE mnxyz 5 LN MSG:
[IW pq] AIS {INFO|MJ|MN} PL {ENA|DSA}
DAILY NE CVP ESP SESP SEFS CSSP UASP CVL ESL SESL
THRESHOLDS aaaaaaaa bbbbbb cccccc dddddd eeeee ffffff gggggggggg hhhhhh iiiiii
OPTIONS a b c d e f g h i EOM
```

```
M hh:mm:ss xy,ww n[vv] COPY uvjkl TYPE mnxyz 5 LN MSG:
[IW pq] AIS {INFO|MJ|MN} PL {ENA|DSA}
DAILY FE CVP ESP SESP SEFS CSSP UASP ESL
THRESHOLDS jjjjjjjj kkkkk lllll mmmmm nnnnn ooooo ppppp
OPTIONS j k l m n o p EOM
```

```
M hh:mm:ss xy,ww n[vv] COPY uvjkl TYPE mnxyz 5 LN MSG:
[IW pq] AIS {INFO|MJ|MN} PL {ENA|DSA}
15MIN NE CVP ESP SESP SEFS CSSP UASP CVL ESL SESL
THRESHOLDS aaaaaaa bbb ccc ddd eee fff gggggggg hhh iii
OPTIONS a b c d e f g h i EOM
```

```
M hh:mm:ss xy,ww n[vv] COPY uvjkl TYPE mnxyz 5 LN MSG:
[IW pq] AIS {INFO|MJ|MN} PL {ENA|DSA}
15MIN FE CVP ESP SESP SEFS CSSP UASP ESL
THRESHOLDS jjjjjjj kkk lll mmm nnn ooo ppp
OPTIONS j k l m n o p COMPL
```

If the destination NPC is DS type, the output format is:

[O.31521]

```
M hh:mm:ss xy,ww n[vv] COPY uvjkl TYPE DSxyz [IW pq] \
4 LN MSG:
SLIP BER ERS SERS COFA SANE SAFE
THRESHOLDS mmm nnn p q rrrrr sss ttt uuu xxxxx zzzzz
OPTIONS e f g h i j k l v w COMPL
```

## Denial Message

## Nonhierarchical

[O.31521.01]

```
M hh:mm:ss xy,ww n[vv] COPY NPC [s]abc TO [t]mno[-[u]vwx] COND cc DNY
```

## Hierarchical

---

[O.31521.01]

M hh:mm:ss xy,ww n[vv] COPY NPC uvmp TO bcdfe[-efhed] COND cc DNY

## Autonomous Message

---

Not applicable.

## Explanation Of Parameters

---

**NPC** - Network processing circuit

**TO** - to

**TYPE** - type

**mnxyz** - NPC type identifier

| <i>mn</i> | <i>Explanation</i>         |
|-----------|----------------------------|
| DA        | Dual digroup ANSI NPC      |
| DE        | Dual digroup NPC           |
| DS        | SLC® carrier NPC           |
| TA        | DS3U ANSI NPC              |
| TE        | DS3U Noninterface unit NPC |

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number, denoting the source of the provisioning information.

**[t]def** - The 3- or 4-digit nonhierarchical NPC number, denoting the start of a range.

**[u]ghi** - The 3- or 4-digit nonhierarchical NPC number, denoting the end of a range.

**[s]jkl** - The 3- or 4-digit nonhierarchical NPC number of the NPC that was successfully equipped.

**[t]mno** - The 3- or 4-digit nonhierarchical NPC number of the first NPC in a range to be denied.

**[u]vwx** - The 3- or 4-digit nonhierarchical NPC number of the last NPC in a range to be denied.

**bcdfe** - Hierarchical NPC number of the first NPC in a range to be denied.

**efhed** - Hierarchical NPC number of the last NPC in a range to be denied.

**ghikl** - Hierarchical NPC number of the last NPC in a range to be equipped.

**uvjkl** - Hierarchical NPC number of the NPC that was successfully equipped.

**uvmnp** - Hierarchical NPC number denoting the source of the provisioning information to be copied.

**wxkqr** - Hierarchical NPC number of the NPC to be equipped or the first NPC in a range to be equipped.

**bc, ef, gh, uv, wx**

- Unit number

**d, h, i, j, k, m**

- Module number

**fe, ed, kl, np, qr**

- NPC number within the module

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

If NPC numbers are expressed in hierarchical form, the valid values are:

DE, DS, and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**IW** - Insertion word

**pq** - Hexadecimal value of the insertion word.

An eight-bit code, called the growth insertion word, is transmitted by this NPC on unassigned DS0 channels. This code is specified by the optional keyword IW and its argument pq. This code was previously called the Disconnect Code (DCC), but that name is properly reserved for the cross-connect insertion word, which is transmitted when the disconnect message with the DDC specified is used.

Although any 2-digit hexadecimal code may be used, the default values are:

| <i>pq</i> | <i>Explanation</i>                                                                                                                                                                                                                         |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7F        | Unassigned Channel Code (UAC), the default value for DE/TE type, DA/TA type, and DS type NPCs provisioned with D4 or ESF framing.                                                                                                          |
| 18        | Unassigned Multiplex Code (UMC), the default value for DA/TA type NPCs provisioned with T1DM framing. This value should only be provisioned with T1DM framing (DE4yz/TE4yz, DA4yz/TA4yz), so the growth command enforces this restriction. |
| FF        | This is recommended for unconnected channels in the SLC® interface and CPI applications.                                                                                                                                                   |

For Clear-DS1 NPCs, the insertion word option is **NOT** available and the message will be denied if this option is entered. The alarm indication signal (AIS) is transmitted in the disconnect or idle state.

**AIS** - Alarm indication signal

**INFO** - Information  
Information message (not an alarm).

**MJ** - Major (alarm)

**MN** - Minor (alarm)

**BER** - Bit Error Rate

**ERS** - Errored seconds

**SERS** - Severe errored seconds

**COFA** - Change of frame alignment



---

**mmm** - SLIP major alarm threshold (0 through 255)  
**nnn** - SLIP minor alarm threshold (0 through 255)  
**e** - SLIP major option selection (0 through 3)  
**f** - SLIP minor option selection (0 through 3)

**p** - BER major alarm threshold (4 through 6)  
**q** - BER minor alarm threshold (4 through 6)  
**g** - BER major option selection (0 through 3)  
**h** - BER minor option selection (0 through 3)

**rrrrr** - ERS threshold (1 through 65535)  
**i** - ERS option selection (0 through 3)

**sss** - SERS threshold (1 through 255)  
**j** - SERS option selection (0 through 3)

**ttt** - COFA major alarm threshold (1 through 511)  
**uuu** - COFA minor alarm threshold (1 through 255)  
**k** - COFA major option selection (0 through 3)  
**l** - COFA minor option selection (0 through 3)

**xxxxx** - SANE threshold (0 through 65535)  
**v** - SANE option selection (0 through 3)

**zzzzz** - SAFE threshold (0 through 65535)  
**w** - SAFE option selection (0 through 3)

**Note:** For clear-DS1 FTU NPC only SLIP and BER parameters are listed.  
For clear-DS1 DS3U NPC only SLIP parameters are listed.

The SANE and SAFE parameters are not applicable to DS1yz and DS7yz type NPCs.

Except for BER, major thresholds may not be equal to or less than the minor thresholds. The BER major threshold can be equal to the BER minor threshold.

**PL** - Payload loopback

**ENA** - Enabled

Payload loopback commands received from far-end equipment on the ESF data link are recognized and performed by the ANSI NPC. This is the default option.

**DSA** - Disabled

Payload loopback commands received from far-end equipment on the ESF data link are ignored by the ANSI NPC. This prevents customer equipment from controlling network configurations.

**CVP** - Path Coding Violations

**ESP** - Path Errored Seconds

**SESP** - Path Severely Errored Seconds

**SEFS** - Severely Errored Framing Seconds

**CSSP** - Path Controlled Slip Seconds

**UASP** - Path Unavailable Seconds

**CVL** - Line Coding Violations

**ESL** - Line Errored Seconds

**SESL** - Line Severely Errored Seconds

aaaaaaaa

- Daily near-end path coding violation threshold, (000000000 through 134217727)

**a** - Daily near-end path coding violation threshold selection, (0 through 3)

**bbbbbb** - Daily near-end path errored second threshold, (00000 through 86400)

**b** - Daily near-end path errored second threshold selection, (0 through 3)

**cccccc** - Daily near-end path severely errored second threshold, (00000 through 86400)

**c** - Daily near-end path severely errored second threshold selection, (0 through 3)

**dddddd** - Daily near-end severely errored framing second threshold, (00000 through 86400)

**d** - Daily near-end severely errored framing second threshold selection, (0 through 3)

**eeeeee** - Daily near-end controlled slip second threshold, (00000 through 86400)

**e** - Daily near-end controlled slip second threshold selection,  
(0 through 3)

**ffffff** - Daily near-end unavailable second threshold, (00000 through 86400)

**f** - Daily near-end unavailable second threshold selection, (0 through 3)

**ggggggggg**

- Daily near-end line coding violation threshold,  
(000000000 through 134217727, or ----- if not applicable)

**g** - Daily near-end line coding violation threshold selection,  
(0 through 3)

**hhhhh** - Daily near-end line errored second threshold,  
(00000 through 86400, or ----- if not applicable)

**h** - Daily near-end line errored second threshold selection,  
(0 through 3)

**iiiii** - Daily near-end line severely errored second threshold,  
(00000 through 86400, or ----- if not applicable)

**i** - Daily near-end line severely errored second threshold selection,  
(0 through 3)

**jjjjjjj**

- Daily far-end path coding violation threshold,  
(000000000 through 134217727, or ----- if not applicable)

**j** - Daily far-end path coding violation threshold selection,  
(0 through 3)

**kkkkk** - Daily far-end path errored second threshold,  
(00000 through 86400, or ----- if not applicable)

**k** - Daily far-end path errored second threshold selection, (0 through 3)

**lllll** - Daily far-end path severely errored second threshold,  
(00000 through 86400, or ----- if not applicable)

**l** - Daily far-end path severely errored second threshold selection,  
(0 through 3)

**mmmmm** - Daily far-end severely errored framing second threshold,  
(00000 through 86400, or ----- if not applicable)

**m** - Daily far-end severely errored framing second threshold selection,  
(0 through 3)

**nnnnn** - Daily far-end controlled slip second threshold,  
(00000 through 86400, or ----- if not applicable)

**n** - Daily far-end controlled slip second threshold selection,  
(0 through 3)

**ooooo** - Daily far-end unavailable second threshold,  
(00000 through 86400)

**o** - Daily far-end unavailable second threshold selection, (0 through 3)

**ppppp** - Daily far-end line errored second threshold,  
(00000 through 86400, or ----- if not applicable)

**p** - Daily far-end line errored second threshold selection,  
(0 through 3)

**a a a a a a**

- 15-Minute near-end path coding violation threshold,  
(0000000 through 2097151)

**a** - 15-Minute near-end path coding violation threshold selection,  
(0 through 3)

**bbb** - 15-Minute near-end path errored second threshold,  
(000 through 900)

**b** - 15-Minute near-end path errored second threshold selection,  
(0 through 3)

**ccc** - 15-Minute near-end path severely errored second threshold,  
(000 through 900)

**c** - 15-Minute near-end path severely errored second threshold selection,  
(0 through 3)

**ddd** - 15-Minute near-end severely errored framing second threshold,  
(000 through 900)

**d** - 15-Minute near-end severely errored framing second threshold  
selection, (0 through 3)

**eee** - 15-Minute near-end controlled slip second threshold,  
(000 through 900)

**e** - 15-Minute near-end controlled slip second threshold selection,  
(0 through 3)

**fff** - 15-Minute near-end unavailable second threshold,  
(000 through 900)

**f** - 15-Minute near-end unavailable second threshold selection,  
(0 through 3)

**g g g g g g g**  
- 15-Minute near-end line coding violation threshold,  
(0000000 through 2097151, or ----- if not applicable)

**g** - 15-Minute near-end line coding violation threshold selection,  
(0 through 3)

**hhh** - 15-Minute near-end line errored second threshold,  
(000 through 900, or --- if not applicable)

**h** - 15-Minute near-end line errored second threshold selection,  
(0 through 3)

**iii** - 15-Minute near-end line severely errored second threshold,  
(000 through 900, or --- if not applicable)

**i** - 15-Minute near-end line severely errored second threshold selection,  
(0 through 3)

**j j j j j j j**  
- 15-Minute far-end path coding violation threshold,  
(0000000 through 2097151, or ----- if not applicable)

**j** - 15-Minute far-end path coding violation threshold selection,  
(0 through 3)

**kkk** - 15-Minute far-end path errored second threshold,  
(000 through 900, or --- if not applicable)

**k** - 15-Minute far-end path errored second threshold selection,  
(0 through 3)

**lll** - 15-Minute far-end path severely errored second threshold,  
(000 through 900, or --- if not applicable)

**l** - 15-Minute far-end path severely errored second threshold selection,  
(0 through 3)

**mmm** - 15-Minute far-end severely errored framing second threshold,  
(000 through 900, or --- if not applicable)

**m** - 15-Minute far-end severely errored framing second threshold selection,  
(0 through 3)

- nnn** - 15-Minute far-end controlled slip second threshold,  
(000 through 900, or --- if not applicable)
- n** - 15-Minute far-end controlled slip second threshold selection,  
(0 through 3)
- ooo** - 15-Minute far-end unavailable second threshold,  
(000 through 900)
- o** - 15-Minute far-end unavailable second threshold selection,  
(0 through 3)
- ppp** - 15-Minute far-end line errored second threshold,  
(000 through 900, or --- if not applicable)
- p** - 15-Minute far-end line errored second threshold selection,  
(0 through 3)

**Note:** A threshold of zero for any parameter inhibits threshold crossing monitoring for that parameter.

**For PB/PC type:**

Note that:

- If the NPC is not located in a sync NPC location, bit "b" set to "1" will be denied.
- For telephone channel numbering, channels 16 to 30 occupy time slots 17 to 31.
- For time slot channel numbering, channels 16 to 30 occupy time slots 16 to 30.
- For NSA NPCs (bit d = 0), bits "f" and "g" are don't cares: any values are accepted.
- If bit "d" is set to "1" (that is, a CAS NPC) and "jkl" is "110" (that is, Transmic 1G), the command will be denied.
- If bit "d" is set to "1" (that is, a CAS NPC) and bit "e" is "1" for time slot channel numbering, the command will be denied.

- m** - Facility performance parameter threshold index (0 through C)

**Note:** If the queried NPC can not be accessed for some reason, for example because the Facility Terminating Module is not equipped or the FTMI or Unit Controller is out of service, then the NPC's parameter count fields are printed as a string of dashes to indicate that the counts are not available. The parameter thresholds and options will still be correctly output.

In addition, certain parameters do not apply. In the cases where specific parameters do not apply to the queried NPC, the respective parameter count fields, threshold values and threshold options are all displayed as a string of dashes.

A special code, called the Growth Insertion Word (GIW), is transmitted by this NPC on unassigned channels. This code is specified by the optional keyword **IW** and its argument **pq**.

*This code was previously called the Disconnect Code (DCC), but that name is properly reserved for the TCON Insertion Word, which is transmitted when the "TDIS: :FROM, TO, . . . , DCC" command is used.*

**IW** - Insertion word

**pqr** - Hexadecimal value of the insertion word.

For PB and PC type NPCs, the IW argument is X'pq[r], and the default GIW code is X'D5D (Binary: 11010101 1101). Hexadecimal digits "pq" represent the CEPT insertion word for cross-connected time slots and hexadecimal digit "r" represents the CEPT signaling option. The "r" digit is needed to accommodate the cross-connected CEPT time slot and its associated portion of TS16 used for signaling when provisioned for channel associated signaling (CAS).

Although the "r" digit is accepted on input, for NSA NPCs, it has no significance.

**AIS** - Alarm indication signal

**MI** - Maintenance information  
This is the default option.

**PMA** - Prompt maintenance alarm

**DMA** - Deferred maintenance alarm

The **TS0 abcdefgh** variables represent international and national bits in time slot'0, as defined by:

These variables are set to their default values "11011111" by this command, except for the Transmic'1G option, where the default is "11000000."

The variables may later be changed by setting the abcdefgh parameters in the TS0 field of the CHG::NPC command.

Each of the variables may then be set to "0", "1", or "P."  
"P" indicates that the incoming bit will be cross-connected unchanged.

When TS0 is cross-connected, the TS0 bits will be either passed, or set to "0" or "1" as indicated by the "abcdefgh" variable values.  
Note that bits which are used for alarms (bit 3 always; bits 4 and 5 if provisioned by the **mnxyz** values) may not be set to "P."

This is also true for NPCs assigned as test port NPCs.

The **TS0M abcdefgh** field allows monitoring of state changes in the received spare international bits, where the "abcdefgh" variables refer to the same TS0 bits as defined above for the TS0 "abcdefgh" variables.

The TS0M variables are specified for monitoring in the command as:

The default values for TS0M variables are **abcdefgh=00000000**, unless the **xyz** parameters set them differently, that is, for Transmic'1G the **abcdefgh=00111111**.

The TS0M variables may later be provisioned by the **CHG::TS0M'abcdefgh** or the **ED-PRMTR-EQPT TS0M-abcdefgh (38323)** command.

**For PA type:**

Note that:

- If the NPC is not located in a sync NPC location, the value of "x" must be in the range 0 - 3 or 8 - B. Otherwise the command will be denied.
- For telephone channel numbering, channels 16 to 30 occupy time slots 17 to 31.
- For time slot channel numbering, channels 16 to 30 occupy time slots 16 to 30.
- If the value of "y" is 0, 2, 4 or 6 (i.e., a CAS NPC) and the value of "z" is C (i.e. Transmic 1G), the command will be denied.

**m** - Facility performance parameter threshold index (0 through c)



Variable m is used to select the threshold value and alarm type previously programmed for parameter rr. There are four possible alarm thresholds and 3 different alarm levels. A given value of m selects one combination of threshold value and alarm level. The combinations of these two result in 12 possible values of m. There is a thirteenth m value which is used to disable the alarm threshold and the alarm. The values of m that produce the default values of the thresholds and alarms are shown in the table below under the column heading "Threshold Value". Threshold and alarm combinations selected by m = 3 through b must exist, that is, must have been programmed, prior to being selected. The thresholds are programmed by using the ED-OPT-T1 command. Thresholds of all unspecified parameters will be set to the default value associated with m=0. Setting m = c disables thresholding for a given parameter.

A special code, called the Growth Insertion Word (GIW), is transmitted by this NPC on unassigned channels. This code is specified by the optional keyword **IW** and its argument **pq**.

*This code was previously called the Disconnect Code (DCC), but that name is properly reserved for the TCON Insertion Word, which is transmitted when the "TDIS: :FROM, TO, . . . , DCC" command is used.*

**IW** - Insertion word

**pqr** - Hexadecimal value of the insertion word.

For PA type NPCs, the IW argument is X'pq[r]', and the default GIW code is X'D5D (Binary: 11010101 1101). The "pq" hex digits represent the CEPT insertion word for cross-connected time slots and the "r" hex digit represents the CEPT signaling options. The "r" digit is needed to accommodate the cross-connected CEPT time slot and its associated portion of TS16 used for signaling when provisioned for CAS.

Although the "r" digit is accepted on input, for NSA NPCs, it has no significance.

**AIS** - Alarm indication signal

AIS is not detected by unframed clear (unchannelized) 2Mbit/s PAXDz type NPCs. Therefore, specifying AIS with one of the alarm level types MI, DMA, or PMA, is unnecessary. However, the command will not be denied if AIS is specified with an alarm level for unframed clear PAXDz NPCs. AIS with its alarm level will simply never be reported for unframed clear PAXDz NPCs.

**MI** - Maintenance information

This is the default option.

**PMA** - Prompt maintenance alarm

**DMA** - Deferred maintenance alarm

For each NPC listed, this message prints out values of the states, counts, thresholds and options of the following facility performance parameters and the spare international and national bits in time slot 0 for CEPT DPCs.

| parameter | explanation                      |
|-----------|----------------------------------|
| CRC       | CRC Block Errors                 |
| FRER      | Framing Errors                   |
| OFS       | Out of Frame Seconds             |
| ES        | Errored Seconds                  |
| SES       | Severely Errored Seconds         |
| CSS       | Controlled Slip Seconds          |
| CV        | Coding Violations                |
| UAS       | Unavailable Seconds              |
| UATC      | Unavailable Time Count           |
| MER       | Multiframe Errors                |
| FEBE      | Far End Block Errors             |
| FES       | Far End Errored Seconds          |
| FSES      | Far End Severely Errored Seconds |
| FUAS      | Far End Unavailable Seconds      |

Two sets of thresholds are kept for each parameter: One for DAILY intervals and one for 15 MINUTE intervals.

aaaaaaaa

- Daily CRC block error threshold value.

**a** - Daily CRC block error threshold selection, (0 through 3)

bbbbbbbb

- Daily framing error threshold value.

**b** - Daily framing error threshold selection, (0 through 3)

cccccc

- Daily out of frame seconds threshold value.

**c** - Daily out of frame seconds threshold selection, (0 through 3)

dddddd

- Daily errored second threshold value.

**d** - Daily errored second threshold selection, (0 through 3)

**eeeeee** - Daily severely errored second threshold value.  
**e** - Daily severely errored second threshold selection, (0 through 3)  
**fffff** - Daily controlled slip second threshold value.  
**f** - Daily controlled slip second threshold selection, (0 through 3)  
**ggggggggg** - Daily coding violation threshold value.  
**g** - Daily coding violation threshold selection, (0 through 3)  
**hhhhh** - Daily unavailable second threshold value.  
**h** - Daily unavailable second threshold selection, (0 through 3)  
**iiii** - Daily unavailable time count threshold value.  
**i** - Daily unavailable time count threshold selection, (0 through 3)  
**jjjjj** - Daily multiframe alignment error threshold value.  
**j** - Daily multiframe alignment error threshold selection, (0 through 3)  
**kkkkkkkk** - Daily far-end block error threshold value.  
**k** - Daily far-end path block error selection, (0 through 3)  
**lllll** - Daily far-end errored second threshold value.  
**l** - Daily far-end path second threshold selection, (0 through 3)  
**mmmm** - Daily far-end severely errored second threshold value.  
**m** - Daily far-end severely errored second threshold selection, (0 through 3)  
**nnnnn** - Daily far-end unavailable second threshold value.  
**n** - Daily far-end unavailable second threshold selection, (0 through 3)  
**a a a a a** - 15-Minute CRC block error threshold value.  
**a** - 15-Minute CRC block error threshold selection, (0 through 3)  
**bbbbbbb** - 15-Minute framing error threshold value.  
**b** - 15-Minute framing error threshold selection, (0 through 3)

- ccc** - 15-Minute out of frame seconds threshold value.
- c** - 15-Minute out of frame seconds threshold selection, (0 through 3)
- ddd** - 15-Minute errored second threshold value.
- d** - 15-Minute errored second threshold selection, (0 through 3)
- eee** - 15-Minute severely errored second threshold value.
- e** - 15-Minute severely errored second threshold selection, (0 through 3)
- fff** - 15-Minute controlled slip second threshold value.
- f** - 15-Minute controlled slip second threshold selection, (0 through 3)
- g g g g g g g** - 15-Minute coding violation threshold value.
- g** - 15-Minute coding violation threshold selection, (0 through 3)
- hhh** - 15-Minute unavailable second threshold value.
- h** - 15-Minute unavailable second threshold selection, (0 through 3)
- ii** - 15-Minute unavailable time count threshold value.
- i** - 15-Minute unavailable time count threshold selection, (0 through 3)
- j j j** - 15-Minute multiframe alignment error threshold value.
- j** - 15-Minute multiframe alignment error threshold selection, (0 through 3)
- k k k k k k k** - 15-Minute far-end block error threshold value.
- k** - 15-Minute far-end path block error selection, (0 through 3)
- lll** - 15-Minute far-end errored second threshold value.
- l** - 15-Minute far-end path second threshold selection, (0 through 3)
- mmm** - 15-Minute far-end severely errored second threshold value.
- m** - 15-Minute far-end severely errored second threshold selection, (0 through 3)
- nnn** - 15-Minute far-end unavailable second threshold value.
- n** - 15-Minute far-end unavailable second threshold selection, (0 through 3)

The options {a,b,c,d,e,f,g,h,i,j,k,l,m,n} and {a,b,c,d,e,f,g,h,i,j,k,l,m,n} are **m values** as

previously shown and specify the threshold sets of the performance parameters listed.

The **TS0 abcdefgh** variables represent international and national bits in time slot'0, as defined by:

These variables are set to their default values "11011111" by this command, except for the Transmic'1G option, where the default is "11000000."

The variables may later be changed by setting the abcdefgh parameters in the TS0 field of the ED-PRMTR-EQPT::NPC or CHG::NPC (38321) command. Each of the variables may then be set to "0", "1", "P" or "V." "P" indicates that the incoming bit will be cross-connected unchanged; "V" indicates that the bit received will be inverted.

When TS0 is cross-connected, the TS0 bits will be either passed, inverted or set to "0" or "1" as indicated by the "abcdefgh" variable values. Note that bits which are used for alarms (bit 3 always; bits 4 and 5 if provisioned by the **mnxyz** values) may not be set to "P."

This is also true for NPCs assigned as test port NPCs.

The **TS0M abcdefgh** field allows monitoring of state changes in the received spare international bits, where the "abcdefgh" variables refer to the same TS0 bits as defined above for the TS0 "abcdefgh" variables.

The TS0M variables are specified for monitoring in the command as:

The default values for TS0M variables are **abcdefgh=00000000**, unless the **xyz** parameters set them differently, i.e., for Transmic'1G the abcdefgh=00111111. The TS0M variables may later be provisioned by the CHG::TS0M'abcdefgh or the ED-PRMTR-EQPT TS0M-abcdefgh (38323) command.

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 01** Subject entity is equipped
- 10** Unit is not equipped
- 11** UC is out of service
- 12** UC is in service but failed
- 13** FTMI is not equipped
- 24** Unit type error
- 26** NPC type error
- 83** NPC type is inconsistent with FTMI type
- BF** MIU is not equipped
- FD** NPC range crosses unit boundary
- 9B** The MXR is not grown
- 07** Mismatch between MXR and NPC types
- 87** Copy source NPC is not equipped

## **CTST,FAD,AIS,INCL**

### **NON-CANNELIZED TEST, MONITOR,SPLIT,LOOP**

#### **Explanation Of Command**

For a one-way circuit under test, the test mode can only be MONE or SPLTA. The FROM and TO NPCs must be entered as the E- and F-end NPCs, respectively.

The AIS keyword is required for test modes SPLTE, SPLTF, SPLTEF, LOOPE and LOOPF, to indicate the idle signal for any idle output port that resulted from the interruption.

The INCL keyword is required if one or more of the NPC(s) under test is marked Red or Customer-controlled, except when changing to a monitor mode.

Once a test connection is set up, this command can be entered with either one or both FADs, in any order. The original order of FAD assignment will be used until test access is released.

The E- and F-end NPCs for non-channelized test access correspond to the FROM and TO NPCs of a cross-connection, respectively. The test session is the circuit connection under test.

During a test session, if a hard-reset or link failure occurs, the test session is released automatically. However, if the failure is such that it prevents release at the time of logoff or if the FAD fails, the test session is NOT automatically released and can be released by manual disconnection.

#### **Command**

#### **Nonhierarchical**

[I.20101]

**CTST:FRM xy,SEQ ww:<tmode>,FAD ([s]abc[, [t]def)][,AIS][,INCL]!**

### **Hierarchical**

---

[I.20101]

CTST:FRM xy,SEQ ww:<tmode>,FAD (uvmnp[,wxkqr])[,AIS][,INCL]!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.20101]

M hh:mm:ss xy,ww n[vv] CTST <tmode> FAD ([s]abc[, [t]def]) \  
[u]ghi[, [v]jkl] 2 LN MSG:  
[AIS ][RDC ][CUS ][ONEWAY ]{UMPD|[EMODE <emode>] FMODE <fmode>} \  
COMPL

### **Hierarchical**

---

[O.20101]

M hh:mm:ss xy,ww n[vv] CTST <tmode> FAD (uvmnp[,wxkqr]) \  
eghij[,jklmn] 2 LN MSG:  
[AIS ][RDC ][CUS ][ONEWAY ]{UMPD|[EMODE <emode>] FMODE <fmode>} \  
COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.20101.01]

M hh:mm:ss xy,ww n[vv] CTST <tmode> FAD ([s]abc[, [t]def]) \  
2 LN MSG:  
[[t]klm][COND ]cc[ <st>] DNY

### **Hierarchical**

---

[O.20101.01]

M hh:mm:ss xy,ww n[vv] CTST <tmode> FAD (uvmnp[,wxkqr]) \  
2 LN MSG:  
[ghklm ][COND ]cc[ <st>] DNY

## **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

---

**FAD** - Facility access digroup  
The test NPC

**tmode** - Test mode  
*tmode Explanation*

**MONE** Monitor signal from equipment end (E-end) NPC to facility end (F-end) NPC of unmapped or one-/two-way mapped test session

**MONF** Monitor signal from F-end NPC to E-end NPC of a two-way mapped test session

**MONEF** Monitor a two-way mapped connection in both directions; two FADs are connected for the test session, and test mode can only be changed to another mode using two FADs

**SPLTA** Split the A signal from the equipment E-end NPC to the facility F-end NPC of one-/two-way mapped test session

**SPLTB** Split the B signal from the F-end NPC to the E-end NPC of a mapped two-way test session

**SPLTAB** Split both A and B signals of a two-way test session; two FADs are connected for the test session, and test mode can only be changed to another mode using two FADs

**SPLTE** Split the input and output ports of E-end NPC of an unmapped or two-way mapped test session

**SPLTF** Split the input and output ports of F-end NPC of a two-way mapped test session

**SPLTEF** Split a two-way mapped test session in both directions; two FADs are connected for the test session, and test mode can only be changed to another mode using two FADs



**LOOPE** Loop the E-end input port to the output port, and connect the looped signal to the FAD; the test session may include an unmapped or two-way mapped connection

**LOOPF** Loop the F-end input port to the output port, and connect the looped signal to the FAD; only for a two-way mapped test session; not allowed for one-way broadcast tributaries

**[s]abc** - The 3- or 4-digit nonhierarchical number of test NPC or FAD  
For MONEF, SPLTAB and SPLTEF modes this is one of two test NPCs; the message is denied if this NPC is currently not a FAD

**[t]def** - Nonhierarchical number of second test NPC or FAD  
For MONEF, SPLTAB and SPLTEF modes this number can be entered or omitted; either and/or both of [s]abc and [t]def can be entered, in any order, the original order of FAD assignment will be used; the message is denied if this NPC is currently not a FAD

**[u]ghi** - Nonhierarchical number of E-end NPC, this is the reference NPC for the test session; it is a mapped or unmapped NPC, or the backbone of a broadcast circuit, depending on the test session specified

**[v]jkl** - Nonhierarchical number of current F-end NPC of the test session. It is defined only if it is mapped to the E-end NPC; if it is omitted, the NPC mapped to the E-end NPC becomes the F-end NPC, or if the test session involves a broadcast circuit, the full tributary becomes the F-end NPC, if one does not exist, the parameter must be given to specify the tributary being tested; it must be omitted if the E-end NPC is unmapped.

**[t]klm** - Nonhierarchical number of problematic NPC.

The valid values are listed below:

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number for FAD  
**wxkqr** - Hierarchical NPC number of second FAD  
**eghij** - Hierarchical E-end NPC number of test session  
**jklmn** - Hierarchical F-end NPC number of a mapped test session  
**ghklm** - Hierarchical number of problematic NPC

**uv,wx,eg,jk,gh**  
- Unit number  
**m,k,h,l** - Module number  
**np,qr,ij,mn,lm**  
- NPC number

The valid values are listed below:

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**AIS** - Alarm indication signal.

May be specified to be idle signal. Quasi-random signal source (QRSS) is the default idle signal. If QRSS is not provisioned or in service, AIS must be entered for all test modes resulting in idle output port(s): SPLTE, SPLTF, SPLTEF, LOOPE, and LOOPF. AIS input shall be denied for test access of an unmapped NPC, and all other test modes.

**INCL** - Inclusive

Required for test session with red or customer-controlled NPC(s), except for MONE, MONF and MONEF modes.

**RDC** - Red circuit

Test session has red NPC(s)

**CUS** - Customer

Customer-controlled circuit  
Test session has Customer-controlled NPC(s)

**ONEWAY** - One way cross-connection

Test session has one-way cross-connection

**UMPD** - Unmapped

Test session has unmapped NPC

**EMODE** - E-end termination status

**FMODE** - F-end termination status

*emode*

*fmode* *Explanation*

**NORM** - The circuit under test is not terminated in this direction

**TERM** - The circuit under test terminated in this direction

The emode output is omitted for one-way circuits

Both emode and fmode are omitted for unmapped circuits

**COND** - Condition

**cc** - Condition code

**st** - Status of denial

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                                                        |
|-----------|------------------------------------------------------------------------|
| <b>02</b> | Subject entity is not equipped                                         |
| <b>04</b> | Subject entity is out of service                                       |
| <b>1E</b> | Customer control or red circuit exists                                 |
| <b>10</b> | NPC out of service or failed                                           |
| <b>12</b> | Active CCN side not IS or failed or pested or hardware OOS             |
| <b>13</b> | UNIT not equipped, not in service, or failed                           |
| <b>14</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS  |
| <b>15</b> | FTMI not equipped, not in service, or failed                           |
| <b>16</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS    |
| <b>17</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS  |
| <b>34</b> | Termination is under customer control (CUS)                            |
| <b>35</b> | Termination is protected (RDC)                                         |
| <b>1A</b> | Required FLI not equipped, not in service, or failed                   |
| <b>1B</b> | Required MXR not equipped, not in service, or failed                   |
| <b>1C</b> | Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS |
| <b>46</b> | NPC Failed or Out of Service                                           |
| <b>70</b> | NPC invalid type                                                       |
| <b>72</b> | Invalid test mode for an unmapped test session                         |
| <b>73</b> | Invalid test mode for a one-way test session                           |
| <b>75</b> | Test session already exists                                            |
| <b>76</b> | AIS not entered for SPLTE/SPLTF/SPLTEF/LOOPE/LOOPF                     |
| <b>79</b> | NPC is not a Facility Access Digroup                                   |
| <b>7A</b> | NPC is not an E-end                                                    |
| <b>7B</b> | Invalid change from previous mode                                      |
| <b>7C</b> | NPC is not a F-end                                                     |
| <b>FF</b> | Termination is in process of being rolled                              |
| <b>FE</b> | AIS entered for MONE/MONF/MONEF/SPLTA/SPLTB/SPLTAB                     |
| <b>8C</b> | The two FADS entered are not associated with one another.              |

## **CTST,FAD,EMODE,FMODE,INCL**

### **NON-CANNELIZED TEST FAD, EMODE, FMODE**

#### **Explanation Of Command**

This message changes the output mode (also known as termination status) of a non-channelized circuit under test. The status can be normal data transmission (NORM), or terminate (TERM) and send idle signal(s) to output port(s). The change can be selectively specified for the circuit's E-end and/or F-end NPCs. At least one of the two <e/fmode> fields must be entered, or the message is denied.

If the cross-connected circuit is terminated before a test session is set up, this command can be used to change the state from TERM to NORM. When the test session is released, the most recent state remains until a change (CHG) termination command is entered.

During a test session, if a hard-reset or link failure occurs, the test session is released automatically. However, if the failure is such that it prevents release at the time of logout or if the FAD fails, the test session is NOT automatically released and can be released by manual disconnection.

The E- and F-end NPCs for non-channelized test access correspond to the FROM and TO NPCs of a cross connection, respectively. A test session is the circuit connection under test.

#### **Command**

#### **Nonhierarchical**

[I.20111]

```
CTST:FRM xy,SEQ ww:FAD ([s]abc[, [t]def])\  
{[, EMODE <emode>][, FMODE <fmode>]}[, INCL];
```

### **Hierarchical**

---

[I.20111]

CTST:FRM xy,SEQ ww:FAD (uvmnp[,wxkqr])\  
{[,EMODE <emode>][,FMODE <fmode>]}[,INCL];

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.20111]

M hh:mm:ss xy,ww n[vv] CTST FAD ([s]abc[, [t]def) \  
[u]ghi,[v]jkl 2 LN MSG:  
[RDC ][CUS ][ONEWAY ][EMODE <emode> ]FMODE <fmode> COMPL

#### **Hierarchical**

---

[O.20111]

M hh:mm:ss xy,ww n[vv] CTST FAD (uvmnp[,wxkqr]) \  
eghij,jklmn 2 LN MSG:  
[RDC ][CUS ][ONEWAY ][EMODE <emode> ]FMODE <fmode> COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.20111.01]

M hh:mm:ss xy,ww n[vv] CTST FAD ([s]abc[, [t]def) 2 LN MSG:  
[[t]klm ][COND ]cc[ <st>] DNY

#### **Hierarchical**

---

[O.20111.01]

M hh:mm:ss xy,ww n[vv] CTST FAD (uvmnp[,wxkqr]) 2 LN MSG:  
[ghklm ][COND ]cc[ <st>] DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**FAD** - Facility access digroup

**[s]abc** - The 3- or 4-digit nonhierarchical number of test NPC or FAD  
For MONEF, SPLTAB and SPLTEF modes this is one of two test NPCs;  
the message is denied if this NPC is currently not a FAD

**[t]def** - Nonhierarchical number of second test NPC or FAD  
For MONEF, SPLTAB and SPLTEF modes this number can be entered or  
omitted; either and/or both of [s]abc and [t]def can be entered,  
in any order, the original order of FAD assignment will be used;  
the message is denied if this NPC is currently not a FAD

**[u]ghi** - Nonhierarchical number of E-end NPC of circuit under test

**[v]jkl** - Nonhierarchical number of current F-end NPC

**[t]klm** - Nonhierarchical number of problematic NPC

The valid values are listed below:

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |



|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmp** - Hierarchical NPC number for FAD  
**wxkqr** - Hierarchical NPC number of second FAD  
**eghij** - Hierarchical E-end NPC number of test session  
**jklmn** - Hierarchical F-end NPC number of a mapped test session  
**ghklm** - Hierarchical number of problematic NPC

**uv,wx,eg,jk,gh**

- Unit number

**m,k,h,l** - Module number

**np,qr,ij,mn,lm**

- NPC number

The valid values are listed below:

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**EMODE** - Equipment-end mode

**emode** - Equipment-end termination status

**FMODE** - Facility-end mode

**fmode** - Facility-end termination status

*emode*  
*fmode Explanation*

NORM The circuit under test is not terminated in this direction  
TERM The circuit under test terminated in this direction

The emode cannot be changed and is omitted for one-way circuits  
The fmode cannot be changed for modes SPLTE, SPLTEF and LOOPE  
For an unmapped circuit neither the EMODE or FMODE can be changed.

If emode or fmode is omitted, the parameter retains its current value.  
If either the E- or F-end NPC is out of service or failed, then is  
subsequently restored to service, the output modes remain as they were  
before the failure.

**RDC** - Red circuit  
Test session has NPC(s) designated as red circuits

**CUS** - Customer  
Test session has Customer-controlled NPC(s)

**INCL** - Inclusive  
Required for circuits with customer-controlled or red NPC(s)

**ONEWAY** - One-way  
Test session has a one-way cross-connection

**COND** - Condition

**st** - Status of denial

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                    |
|-----------|--------------|-----------------------------------------------------------------------|
| <b>02</b> |              | Subject entity is not equipped                                        |
| <b>04</b> |              | Subject entity is out of service                                      |
| <b>1E</b> |              | Customer control or red circuit exists                                |
| <b>10</b> |              | NPC out of service or failed                                          |
| <b>12</b> | <b>MCOND</b> | Active CCN side not IS or failed or pested or hardware OOS            |
| <b>13</b> | <b>MCOND</b> | UNIT not equipped, not in service, or failed                          |
| <b>14</b> | <b>MCOND</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS |
| <b>15</b> | <b>MCOND</b> | FTMI not equipped, not in service, or failed                          |
| <b>16</b> | <b>MCOND</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS   |

| cc | st    | Explanation                                                            |
|----|-------|------------------------------------------------------------------------|
| 17 | MCOND | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS  |
| 30 | MCOND | Termination is already assigned                                        |
| 34 |       | Termination is under customer control (CUS)                            |
| 35 |       | Termination is protected (RDC)                                         |
| 1A | MCOND | Required FLI not equipped, not in service, or failed                   |
| 1B | MCOND | Required MXR not equipped, not in service, or failed                   |
| 1C | MCOND | Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS |
| 46 |       | NPC Failed or Out of Service                                           |
| 70 | MCOND | NPC invalid type                                                       |
| 71 |       | NPC is a Facility Access Digroup                                       |
| 72 |       | Invalid test mode for an unmapped test session                         |
| 73 |       | Invalid test mode for a one-way test session                           |
| 75 |       | Test session already exists                                            |
| 79 |       | NPC is not a Facility Access Digroup                                   |
| 7A |       | NPC is not an E-end                                                    |
| 7B |       | Invalid change from previous mode                                      |
| 7C |       | NPC is not a F-end                                                     |
| FF |       | Termination is in process of being rolled                              |
| 8C |       | The two FADS entered are not associated with one another.              |
| 8E |       | No mapped circuit under test; emode/fmode can't be changed.            |
| 8F |       | One-way circuit under test; emode can't be changed.                    |
| 90 |       | emode/fmode can't be changed under current test mode.                  |

## **CTST,FAD,FROM,TO,AIS,INCL**

### **NON-CANNELIZED TEST ACCESS (MONITOR, SPLIT, OR LOOP)**

#### **Explanation Of Command**

This message sets up non-channelized test access in the monitor modes MONE, MONF, MONEF; the split modes SPLTA, SPLTB, SPLTAB, SPLTE, SPLTF, SPLTEF; and the loop modes LOOPE or LOOPF. The circuit under test can be one unmapped Network Processing Circuit (NPC), or a pair of mapped NPCs. The mapped circuit may be a one-way, two-way or broadcast circuit. A one-way circuit can only be tested in modes MONE and SPLTA. Only one test connection can exist at a time for any circuit.

For test modes MONEF, SPLTAB and SPLTEF two Facility Access Digroups (FADs), or test NPCs, are connected. The first FAD number is required; the second FAD can be user specified, or assigned by default to be NPC numbered n+1, where n is the NPC number of the first FAD. If n is the highest NPC number on the DACS II frame, the first NPC on the frame will be used as default for the second FAD. Whether a FAD is user specified or assigned by DACS II, the command will be denied if the FAD is assigned or has invalid type. One FAD is connected for all other modes.

During a test session, if a hard-reset or link failure occurs, the test session is released automatically. However, if the failure is such that it prevents release at the time of logoff, or if the FAD fails, the test session is NOT automatically released and can be released by manual disconnection.

The E- and F-end NPCs for non-channelized test access correspond to the FROM and TO NPCs of a cross-connection, respectively. For a broadcast circuit the full tributary is considered to be a two-way connection, and all other tributaries are one-way connections. Only one test session can exist for a circuit at a time. The FAD or test NPC corresponds to test ports for DS0 test access.

For modes SPLTE and LOOPE, the idle output port of the F-end NPC, and any other output ports the E-end is transmitting to, must be set to AIS.

For modes SPLTF and LOOPF, the idle output port of the E-end NPC, and any other output ports the F-end is transmitting to, must be set to AIS.

The output signal on all idle output ports related to a test session are restored to their previous values when the test modes are changed or test access is released. The OUTPUT modes can be overwritten when the NPC is test accessed.

## Command

---

### Nonhierarchical

---

[I.20001]

CTST:FRM xy,SEQ ww:<tmode>,FAD ([s]abc[, [t]def]),FROM [u]ghi\  
[,TO [v]jkl][,AIS][,INCL]!

### Hierarchical

---

[I.20001]

CTST:FRM xy,SEQ ww:<tmode>,FAD (uvmnp[,wxkqr]),FROM eghij\  
[,TO jklmn][,AIS][,INCL]!

## Completion Message

---

### Nonhierarchical

---

[O.20001]

M hh:mm:ss xy,ww n[vv] CTST <tmode> FAD ([s]abc[, [t]def]) \  
[u]ghi[, [v]jkl] 2 LN MSG:  
[AIS ][RDC ][CUS ][ONEWAY ][UMPD][EMODE <emode>] FMODE <fmode>} \  
COMPL

### **Hierarchical**

---

[O.20001]

M hh:mm:ss xy,ww n[vv] CTST <tmode> FAD (uvmnp[,wxkqr])\  
eghij[,jklmn] 2 LN MSG:  
[AIS ][RDC ][CUS ][ONEWAY ][UMPD][EMODE <emode>] FMODE <fmode>} \  
COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.20001.01]

M hh:mm:ss xy,ww n[vv] CTST <tmode> FAD ([s]abc[, [t]def]) \  
[u]ghi[, [v]jkl] 2 LN MSG:  
[[t]klm ][COND ]cc[ <st>] DNY

### **Hierarchical**

---

[O.20001.01]

M hh:mm:ss xy,ww n[vv] CTST <tmode> FAD (uvmnp[,wxkqr])  
eghij[,jklmn] 2 LN MSG:  
[ghklm ][COND ]cc[ <st>] DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**FAD** - Facility access digroup

**FROM** - FROM termination

**TO** - TO termination

**tmode** - Test mode

| <i>tmode</i> | <i>Explanation</i>                                                                                                                                                            |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MONE         | Monitor signal from equipment E-end NPC to facility F-end NPC of unmapped or one-/two-way mapped test session                                                                 |
| MONF         | Monitor signal from F-end NPC to E-end NPC of a two-way mapped test session                                                                                                   |
| MONEF        | Monitor a two-way mapped connection in both directions; two FADs are connected for the test session, and test mode can only be changed to another mode using two FADs         |
| SPLTA        | Split the A signal from the equipment E-end NPC to the facility F-end NPC of one-/two-way mapped test session                                                                 |
| SPLTB        | Split the B signal from the F-end NPC to the E-end NPC of a mapped two-way test session                                                                                       |
| SPLTAB       | Split both A and B signals of a two-way test session; two FADs are connected for the test session, and test mode can only be changed to another mode using two FADs           |
| SPLTE        | Split the input and output ports of E-end NPC of an unmapped or two-way mapped test session                                                                                   |
| SPLTF        | Split the input and output ports of F-end NPC of a two-way mapped test session                                                                                                |
| SPLTEF       | Split a two-way mapped test session in both directions; two FADs are connected for the test session, and test mode can only be changed to another mode using two FADs         |
| LOOPE        | Loop the E-end input port to the output port, and connect the looped signal to the FAD; the test session may include an unmapped or two-way mapped connection                 |
| LOOPF        | Loop the F-end input port to the output port, and connect the looped signal to the FAD; only for a two-way mapped test session; not allowed for one-way broadcast tributaries |



- [s]abc** - The 3- or 4-digit nonhierarchical number of test NPC or FAD  
For MONEF, SPLTAB and SPLTEF modes this is the first of two test NPCs; the message is denied if this NPC is assigned
- [t]def** - The 3- or 4-digit nonhierarchical number of second test NPC or FAD  
For MONEF, SPLTAB and SPLTEF modes this number can be user specified, if none is entered the next higher NPC number to [s]abc is used; the message is denied if it is assigned
- [u]ghi** - Nonhierarchical number of E-end NPC.  
This is the reference NPC for the test session; it is a mapped or unmapped NPC, or the backbone of a clear-DS1 broadcast circuit, depending on the test session specified
- [v]jkl** - Nonhierarchical number of current F-end NPC of the test session.  
This NPC is defined only if it is mapped to the E-end NPC. If this NPC is omitted from the input command, the NPC mapped to the E-end NPC becomes the F-end NPC or if the test session involves a broadcast circuit, the full tributary becomes the F-end NPC. If a full tributary does not exist, the NPC must be given to specify the tributary being tested. Omit this NPC if the E-end NPC is unmapped.
- [t]klm** - The 3- or 4-digit nonhierarchical number of problematic NPC

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical number of test NPC or FAD  
**wxkqr** - Hierarchical number of second FAD  
**eghij** - Hierarchical number of E-end NPC  
**jklnm** - Hierarchical number of F-end NPC of the test session  
**ghklm** - Hierarchical number of problematic NPC

**uv,wx,eg,jk,gh**  
 - Unit number  
**m,k,h,l** - Module number  
**np,qr,ij,mn,lm**  
 - NPC number

The valid values are listed below:

DE and DA type NPC numbers listed by unit, module, and NPC Number  
 Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
 Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**AIS** - Alarm indication signal.

May be specified to be idle signal. AIS must be entered for all test modes resulting in idle output port(s): SPLTE, SPLTF, SPLTEF, LOOPE, and LOOPF. AIS input will be denied for test access of an unmapped NPC, and all other test modes.

**INCL** - Inclusive

Required for test session with red or customer-controlled NPC(s), except for MONE, MONF and MONEF modes. INCL will be ignored if the circuit is NOT RDC or CUS.

**RDC** - Red circuit

Test session has red NPC(s)

**CUS** - Customer

Customer-controlled circuit. Test session has Customer-controlled NPC(s)

**ONEWAY** - One way cross-connection

Test session has one-way cross-connection

**UMPD** - Unmapped

Test session has unmapped NPC

**EMODE** - E-end termination status

**FMODE** - F-end termination status

*emode*

*fmode Explanation*

**NORM** - The circuit under test is not terminated in this direction

**TERM** - The circuit under test is terminated in this direction

The emode output is omitted for one-way circuits

Both emode and fmode are omitted for unmapped circuits

**COND** - Condition

**cc** - Condition code

**st** - Status of denial

**cc** - Hexadecimal condition code

**cc st Explanation**

**02 MCOND** Subject entity is not equipped

**04** Subject entity is out of service

**1E** Customer control or red circuit exists

**10** NPC out of service or failed

**12 MCOND** Active CCN side not IS or failed or pested or hardware OOS

**13 MCOND** UNIT not equipped, not in service, or failed

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                     |
|-----------|--------------|------------------------------------------------------------------------|
| <b>14</b> | <b>MCOND</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS  |
| <b>15</b> | <b>MCOND</b> | FTMI not equipped, not in service, or failed                           |
| <b>16</b> | <b>MCOND</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS    |
| <b>17</b> | <b>MCOND</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS  |
| <b>30</b> |              | Termination is already assigned                                        |
| <b>34</b> |              | Termination is under customer control (CUS)                            |
| <b>35</b> |              | Termination is protected (RDC)                                         |
| <b>36</b> |              | Termination is not connected as indicated                              |
| <b>1A</b> | <b>MCOND</b> | Required FLI not equipped, not in service, or failed                   |
| <b>1B</b> | <b>MCOND</b> | Required MXR not equipped, not in service, or failed                   |
| <b>1C</b> | <b>MCOND</b> | Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS |
| <b>46</b> |              | NPC Failed or Out of Service                                           |
| <b>70</b> |              | NPC invalid type                                                       |
| <b>71</b> |              | NPC is a Facility Access Digroup                                       |
| <b>72</b> |              | Invalid test mode for an unmapped test session                         |
| <b>73</b> |              | Invalid test mode for a one-way test session                           |
| <b>75</b> |              | Test session already exists                                            |
| <b>76</b> |              | AIS not entered for SPLTE/SPLTF/SPLTEF/LOOPE/LOOPF                     |
| <b>7A</b> |              | NPC is not an E-end                                                    |
| <b>7C</b> |              | NPC is not a F-end                                                     |
| <b>BD</b> |              | Looped Circuit Access not allowed                                      |
| <b>FF</b> |              | Termination is in process of being rolled                              |
| <b>FE</b> |              | AIS entered for MONE/MONF/MONEF/SPLTA/SPLTB/SPLTAB                     |
| <b>8D</b> |              | Clear gateway test access disallowed.                                  |

## **CTST,HUB,FAD,TO,INCL**

### **NON-CANNELIZED TEST HUB**

#### **Explanation Of Command**

This message sets up a non-channelized hub connection between a facility access digroup (FAD), or test network processing circuit (NPC) and a remote FAD. The FAD is connected to an NPC which is connected to a remote test NPC. The NPCs cannot be part of an existing mapped circuit or test connection.

During a hub test session if a hard-reset or link failure occurs the hub test session is released automatically. However, if the failure is such that it prevents release at the time of logout, or if the FAD fails, the hub test session is NOT automatically released and can be released by manual disconnection.

#### **Command**

##### **Nonhierarchical**

[I.20031]

**CTST:FRM xy,SEQ ww:HUB,FAD [s]abc,TO [t]jkl[,INCL]!**

##### **Hierarchical**

[I.20031]

**CTST:FRM xy,SEQ ww:HUB,FAD uvmnp,TO wxkqr[,INCL]!**

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.20031]

M hh:mm:ss xy,ww n[vv] CTST HUB [s]abc,[t]jkl[ CUS] COMPL

#### **Hierarchical**

---

[O.20031]

M hh:mm:ss xy,ww n[vv] CTST HUB uvmnp,wxkqr[ CUS] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.20031.01]

M hh:mm:ss xy,ww n[vv] CTST HUB [s]abc,[t]jkl [[t]klm] \  
COND cc DNY

#### **Hierarchical**

---

[O.20031.01]

M hh:mm:ss xy,ww n[vv] CTST HUB uvmnp,wxkqr [ghklm] \  
COND cc DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**HUB** - HUB connection

**FAD** - Facility access digroup

**[s]abc** - The 3- or 4-digit nonhierarchical number of test NPC or Facility Access Digroup (FAD).

**[t]jkl** - The 3- or 4-digit nonhierarchical number of TO NPC connected to the remote FAD

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |



If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number of test NPC or FAD

**wxkqr** - Hierarchical NPC number of TO NPC connected to the remote FAD

**ghklm** - Hierarchical number of problematic NPC

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**[t]klm** - The hierarchical number of the NPC that caused the denial

**INCL** - Inclusive

Inclusive keyword may be entered for customer-controlled TO NPC

**CUS** - Customer

Customer-controlled Circuit

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                                                        |
|-----------|------------------------------------------------------------------------|
| <b>02</b> | Subject entity is not equipped                                         |
| <b>04</b> | Subject entity is out of service                                       |
| <b>1E</b> | Customer control or red circuit exists                                 |
| <b>10</b> | NPC out of service or failed                                           |
| <b>12</b> | Active CCN side not IS or failed or pested or hardware OOS             |
| <b>13</b> | UNIT not equipped, not in service, or failed                           |
| <b>14</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS  |
| <b>15</b> | FTMI not equipped, not in service, or failed                           |
| <b>16</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS    |
| <b>17</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS  |
| <b>30</b> | Termination is already assigned                                        |
| <b>32</b> | Termination is under test                                              |
| <b>34</b> | Termination is under customer control (CUS)                            |
| <b>35</b> | Termination is protected (RDC)                                         |
| <b>1A</b> | Required FLI not equipped, not in service, or failed                   |
| <b>1B</b> | Required MXR not equipped, not in service, or failed                   |
| <b>1C</b> | Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS |
| <b>46</b> | NPC Failed or Out of Service                                           |
| <b>70</b> | NPC invalid type                                                       |
| <b>71</b> | NPC is a Facility Access Digroup                                       |

**cc**    *Explanation*

- 73**    Invalid test mode for a one-way test session
- 75**    Test session already exists
- FF**    Termination is in process of being rolled
- 8D**    Clear gateway test access disallowed.

## **CTST,LPBKT,FAD,INCL**

### **NON-CANNELIZED LOOP TEST ACCESS FACILITY**

#### **Explanation Of Command**

This message terminally loops back a non-channelized Facility Access Digroup (FAD) or test network processing circuit (NPC).

Terminal looping is defined as looping of a terminated signal; it is done in the cross-connect network.

#### **Command**

##### **Nonhierarchical**

[I.20301]

CTST:FRM xy,SEQ ww:LPBKT,FAD [s]abc[,INCL]!

##### **Hierarchical**

[I.20301]

CTST:FRM xy,SEQ ww:LPBKT,FAD uvmnp[,INCL]!

#### **Completion Message**

##### **Nonhierarchical**

[O.20301]

M hh:ss:mm xy,ww n[vv] CTST LPBKT [s]abc[ CUS] COMPL

### **Hierarchical**

[O.20301]

M hh:ss:mm xy,ww n[vv] CTST LPBKT uvmnp[ CUS] COMPL

### **Denial Message**

### **Nonhierarchical**

[O.20301.01]

M hh:ss:mm xy,ww n[vv] CTST LPBKT [s]abc COND cc DNY

### **Hierarchical**

[O.20301.01]

M hh:ss:mm xy,ww n[vv] CTST LPBKT uvmnp COND cc DNY

### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

**FAD** - Facility access digroup

**[s]abc** - The 3- or 4-digit nonhierarchical FAD NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmp** - Hierarchical NPC number of FAD

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The values are listed below:

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**LPBKT** - Looped back

Test NPC terminal loopback

**INCL** - Inclusive

May be entered for customer-controlled NPC, is not required

**CUS** - Customer

NPC is marked as Customer-controlled

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                                                        |
|-----------|------------------------------------------------------------------------|
| <b>02</b> | Subject entity is not equipped                                         |
| <b>04</b> | Subject entity is out of service                                       |
| <b>1E</b> | Customer control or red circuit exists                                 |
| <b>10</b> | NPC out of service or failed                                           |
| <b>12</b> | Active CCN side not IS or failed or pested or hardware OOS             |
| <b>13</b> | UNIT not equipped, not in service, or failed                           |
| <b>14</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS  |
| <b>15</b> | FTMI not equipped, not in service, or failed                           |
| <b>16</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS    |
| <b>17</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS  |
| <b>30</b> | Termination is already assigned                                        |
| <b>32</b> | Termination is under test                                              |
| <b>34</b> | Termination is under customer control (CUS)                            |
| <b>35</b> | Termination is protected (RDC)                                         |
| <b>1A</b> | Required FLI not equipped, not in service, or failed                   |
| <b>1B</b> | Required MXR not equipped, not in service, or failed                   |
| <b>1C</b> | Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS |
| <b>46</b> | NPC Failed or Out of Service                                           |
| <b>70</b> | NPC invalid type                                                       |
| <b>71</b> | NPC is a Facility Access Digroup                                       |
| <b>73</b> | Invalid test mode for a one-way test session                           |
| <b>75</b> | Test session already exists                                            |
| <b>FF</b> | Termination is in process of being rolled                              |



## **CTST,TNR,ALL,OOS**

### **NON-CHANNELIZED TEST NPC RELEASE**

#### **Explanation Of Command**

This message releases ALL non-channelized facility access digroups (FADs), or test network processing circuits (NPCs) activated by the user, and restores the test session to its original mapped or unmapped state.  
It is preceded by individual CTST,TNR,FAD,OOS messages printed for each test session which is in progress.

If the circuit under test was a mapped circuit before the test session started, upon release of the FAD, the original cross-connection is restored. If the circuit was unmapped, it is restored to the unmapped or idle state that existed prior to testing.

#### **Command**

[I.20202]

CTST:FRM xy,SEQ ww:TNR,ALL[,OOS]!

#### **Completion Message**

[O.20202]

M hh:mm:ss xy,ww n[vv] CTST TNR ALL COND cc COMPL

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**TNR** - Test NPC release

**ALL** - All  
Release all test NPCs

**OOS** - Out-of-service  
The OOS keyword must be entered to release one or more NPC(s) that are OOS. Mapped NPC(s) that are OOS will not be restored to original cross-connection until NPC(s) are returned to service.

**COND** - Condition code

**cc** - Hexadecimal condition code

**cc**    *Explanation*

**00**    No conditions

**01**    No FADs were activated by link n

**02**    One or more FADs could not be released

## **CTST,TNR,FAD,OOS**

### **NON-CHANNELIZED TEST NPC RELEASE**

#### **Explanation Of Command**

This message releases a non-channelized facility access digroup (FAD) or test Network Processing Circuit (NPC) and restores the test session to its original mapped or unmapped state and releases ALL test NPCs activated by the user from the current link.

For test modes using two FADs, if one of the two FADs is entered, both FADs will be released from testing. If both FADs are entered, they must be associated with one another in the same test connection. Both FADs can be entered in any order and will still be released.

If the circuit under test was a mapped circuit before the test session start, upon release of FAD(s), the circuit is restored to cross-connection. If the circuit was unmapped, it is restored to the unmapped or idle state that existed prior to testing.

If the OOS keyword is input, NPC(s) that are out-of-service (OOS) should not be a reason for denial; 'NPC unequipped, failed, or not a test NPC' is a denial condition only for the case of one NPC.

#### **Command**

#### **Nonhierarchical**

[I.20201]

There are two alternate formats depending upon the number of FADs specified.

**CTST:FRM xy,SEQ ww:TNR,FAD [s]abc[,OOS]!**

**CTST:FRM xy,SEQ ww:TNR,FAD ([s]abc[, [t]def)][,OOS]!**

## **Hierarchical**

---

[I.20201]

There are two alternate formats depending upon the number of FADs specified.

CTST:FRM xy,SEQ ww:TNR,FAD uvmnp[,OOS]!

CTST:FRM xy,SEQ ww:TNR,FAD (uvmnp[,wxkqr])[,OOS]!

## **Completion Message**

---

### **Nonhierarchical**

---

[O.20201]

M hh:mm:ss xy,ww n[vv] CTST TNR FAD [s]abc[ OOS]\  
[ [u]ghi[, [v]jkl]] 2 LN MSG:  
[RDC ][CUS ][{UMPD|[EMODE <emode> ]FMODE <fmode>} ][OOS ]COMPL

M hh:mm:ss xy,ww n[vv] CTST TNR FAD [s]abc[, [t]def][ OOS]\  
[ [u]ghi[, [v]jkl]] 2 LN MSG:  
[RDC ][CUS ][{UMPD|[EMODE <emode> ]FMODE <fmode>} ][OOS ]COMPL

## **Hierarchical**

---

[O.20201]

M hh:mm:ss xy,ww n[vv] CTST TNR FAD uvmnp[,wxkqr][ OOS]\  
[ eghij[, jklmn]] 2 LN MSG:  
[RDC ][CUS ][{UMPD|[EMODE <emode> ]FMODE <fmode>} ][OOS ]COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.20201.01]

M hh:mm:ss xy,ww n[vv] CTST TNR FAD [s]abc[, [t]def][ OOS]\  
[ COND] cc[ <st>] DNY

### **Hierarchical**

---

[O.20201.01]

M hh:mm:ss xy,ww n[vv] CTST TNR FAD uvmnp[,wxkqr][ OOS]\  
[ COND] cc[ <st>] DNY

### **Autonomous Message**

---

### **Nonhierarchical**

---

[O.20201]

I hh:mm:ss xy,ww n[vv] CTST TNR FAD [s]abc[, [t]def]\  
[ [u]ghi[, [v]jkl]][ OOS] 2 LN MSG:  
[RDC ][CUS ][{UMPD}[EMODE <emode> ]FMODE <fmode>} ][OOS ]COMPL

[O.20201.01]

I hh:mm:ss xy,ww n[vv] CTST TNR FAD [s]abc[, [t]def][ OOS]  
[ COND] cc[ <st>] DNY

### **Hierarchical**

---

[O.20201]

I hh:mm:ss xy,ww n[vv] CTST TNR FAD uvmnp[,wxkqr][ eghij[,jklmn]]\  
[ OOS] 2 LN MSG:  
[RDC ][CUS ][{UNMAP}[EMODE <emode> ]FMODE <fmode>} ][OOS ]COMPL

[O.20201.01]

I hh:mm:ss xy,ww n[vv] CTST TNR FAD uvmnp[,wxkqr][ OOS]\  
[ COND] cc[ <st>] DNY

## Explanation Of Parameters

**TNR** - Test NPC release

**FAD** - Facility access digroup

**[s]abc** - The 3- or 4-digit nonhierarchical test NPC or Facility Access Digroup (FAD) number

**[t]def** - The second 3- or 4-digit nonhierarchical FAD number, if applicable

**[u]ghi** - The 3- or 4-digit nonhierarchical E-end NPC number of test session. Not applicable to loopback FAD

**[v]jkl** - The 3- or 4-digit nonhierarchical F-end NPC number of a mapped test session. Not applicable to loopback FAD

The values are listed below:

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmp** - Hierarchical NPC number for FAD  
**wxkqr** - Hierarchical NPC number of second FAD, if applicable  
**eghij** - Hierarchical E-end NPC number of test session. Not applicable to loopback FAD  
**jklmn** - Hierarchical F-end NPC number of a mapped test session. Not applicable to loopback FAD

**uv,wx, eg, jk**  
 - Unit number  
**m,k,h,l** - Module number  
**np, qr, ij, mn**  
 - NPC number

The valid values are listed below:

DE and DA type NPC numbers listed by unit, module, and NPC Number  
 Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
 Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**UMPD** - Unmapped  
 Test session has unmapped NPC

**EMODE** - E-end termination status  
**FMODE** - F-end termination status

*emode*  
*fmode Explanation*

**NORM** - The circuit under test is not terminated in this direction  
**TERM** - The circuit under test terminated in this direction

The emode output is omitted for one-way circuits  
 Both emode and fmode are omitted for unmapped circuits



**OOS** - Out-of-service

The OOS keyword must be entered to release one or more NPC(s) that are OOS. Mapped NPC(s) that are OOS will not be restored to original cross-connection until NPC(s) are returned to service.

If the OOS keyword is entered in the input command it will appear in the first line of the output message. A second OOS keyword will appear in the last line of the output message if at least one NPC is out-of-service at the time the command is issued.

**RDC** - Red circuit

Test session has red circuit

**CUS** - Customer

Test session has customer-controlled Circuit

**COND** - Condition

**cc** - Condition code

**st** - Status of denial

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                     |
|-----------|--------------|------------------------------------------------------------------------|
| <b>00</b> |              | No conditions                                                          |
| <b>02</b> |              | Subject entity is not equipped                                         |
| <b>04</b> |              | Subject entity is out of service                                       |
| <b>10</b> |              | NPC out of service or failed                                           |
| <b>12</b> | <b>MCOND</b> | Active CCN side not IS or failed or pested or hardware OOS             |
| <b>13</b> | <b>MCOND</b> | UNIT not equipped, not in service, or failed                           |
| <b>14</b> | <b>MCOND</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS  |
| <b>15</b> | <b>MCOND</b> | FTMI not equipped, not in service, or failed                           |
| <b>16</b> | <b>MCOND</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS    |
| <b>17</b> | <b>MCOND</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS  |
| <b>1A</b> | <b>MCOND</b> | Required FLI not equipped, not in service, or failed                   |
| <b>1B</b> | <b>MCOND</b> | Required MXR not equipped, not in service, or failed                   |
| <b>1C</b> | <b>MCOND</b> | Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS |
| <b>46</b> |              | NPC Failed or Out of Service                                           |
| <b>70</b> | <b>MCOND</b> | NPC invalid type                                                       |
| <b>79</b> |              | NPC is not a Facility Access Digroup                                   |
| <b>8C</b> |              | The two FADS entered are not associated with one another.              |

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---

## **DELETE — DGN**

---

This section documents the commands **DELETE** through **DGN**.

## **DELETE,END**

### **DELETE LINES FROM MACRO**

#### **Explanation Of Command**

This command is used to delete one or more commands from an existing macro while in a macro session. If neither a range of line numbers nor END is specified then the line pointed to by the line pointer (the current line) is deleted.

#### **Command**

[I.19051]

```
DELETE[:FRM xy,SEQ ww:{<starting line>|END}[-{<ending line>\
|END}]]!
```

#### **Completion Message**

[O.19051]

```
M hh:mm:ss xy,ww n[vv] DELETE[ {<starting line>\
|END}[-{<ending line>|END}]] COMPL
```

#### **Denial Message**

[O.19051.01]

```
M hh:mm:ss xy,ww n[vv] DELETE[ {<starting line>|\
END}[-{<ending line>|END}]] COND cc DNY
```

#### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

{<starting line>|END}{-<ending line>\ {<starting line>|END}{-<ending line>|END}:\

#### **starting line**

- Beginning line number of a line range (1, 2, ..., n)

Starting line indicates the line number of the first line of a range of lines to be deleted from a macro.

#### **ending line**

- Ending line number of a line range (2, 3, ..., n+1)

Ending line indicates the line number of the last line of a range of lines to be deleted from a macro.

**END** - End

Line number of the line at the end of the macro.

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

**6B** Invalid line number

**6E** No edit session active

## **DGN,CCB,CFT,X**

### **DIAGNOSE CROSS-CONNECT BUFFER**

#### **Explanation Of Command**

This message requests diagnostics to be run on the cross-connect buffer.

#### **Command**

[I.41211]

**DGN:FRM xy,SEQ ww:CCB sf[,CFT X'vwxy]!**

#### **Completion Message**

[O.41211]

**M hh:mm:ss xy,ww n[vv] DGN CCB sf ATP COMPL**

[O.41212]

**M hh:mm:ss xy,ww n[vv] DGN CCB sf CATP cc COMPL**

[O.41213]

**M hh:mm:ss xy,ww n[vv] DGN CCB sf STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL**

#### **Denial Message**

[O.41211.01]

**M hh:mm:ss xy,ww n[vv] DGN CCB sf COND cc DNY**

## Autonomous Message

[O.41211]

**I** hh:mm:ss xy,ww DGN CCB sf ATP COMPL

[O.41212]

**I** hh:mm:ss xy,ww DGN CCB sf CATP cc COMPL

[O.41213]

**I** hh:mm:ss xy,ww DGN CCB sf STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL

[O.41211.01]

**I** hh:mm:ss xy,ww DGN CCB sf COND cc DNY

## Explanation Of Parameters

**CCB** - Cross-connect buffer

**s** - Cross-Connect Buffer side number (0 or 1)

**f** - Cross-Connect Buffer number (1 through 6)

**CFT** - Craft

The optional craft diagnostic test code field indicates which test(s) of the diagnostic is to be run under craft control. If this field is omitted, all tests of this diagnostic will be run.

All tests can be run while out of service. Test 0004 will not run if any TSI on this Cross-connect Buffer (that is, TSI1 through TSI6) is in service.

**vwxy** - Diagnostic test number

| Test                        | vwxy |
|-----------------------------|------|
| Sync energy detector test   | 0001 |
| Port alarm test             | 0002 |
| Port alarm test             | 0004 |
| Clock energy detector test. | 0008 |

**ATP** - All tests passed

**CATP** - Conditional all tests passed

**cc** - Condition code for CATP

| <i>cc</i> | <i>Explanation</i>                                             |
|-----------|----------------------------------------------------------------|
| 03        | CCB in service                                                 |
| 39        | Not all buses have mapped time slot, or some TSI is in service |
| 3A        | No unmapped time slots on one of the buses                     |
| 44        | DMB type NPCs on unit f on side s is in service.               |

**STF** - Some tests failed

**ppqq** - Trouble number for the craft

pp - Failing diagnostic number in hexadecimal form  
qq - Test number in hexadecimal form.

| <i>ppqq</i> | <i>Explanation</i>                                             |
|-------------|----------------------------------------------------------------|
| 0480        | Clock energy detector test. Circuit pack identification wrong. |
| 0410        | Clock energy detector test. Error bit not set.                 |
| 0440        | Clock energy detector test. Overall error summary not set.     |

**Note:** Involves CCNI register; could be a CCNI problem.

|      |                                                          |
|------|----------------------------------------------------------|
| 04a0 | Clock energy detector test. Error bit not cleared.       |
| 0420 | Clock energy detector test. Error returns after clear.   |
| 04b0 | Clock energy detector test. Summary returns after clear. |

**Note:** Involves CCNI register; could be a CCNI problem.

|      |                                                              |
|------|--------------------------------------------------------------|
| 04f0 | Clock energy detector test. Software error.                  |
| 0180 | Port alarm register test. Circuit pack identification wrong. |
| 0110 | Port alarm register test. Error bit not set.                 |
| 0140 | Port alarm register test. Overall error summary not set.     |

**Note:** Involves CCNI register; could be a CCNI problem.

|      |                                                        |
|------|--------------------------------------------------------|
| 01a0 | Port alarm register test. Error bit not cleared.       |
| 0120 | Port alarm register test. Error returns after clear.   |
| 01b0 | Port alarm register test. Summary returns after clear. |

**Note:** Involves CCNI register; could be a CCNI problem.

|      |                                                               |
|------|---------------------------------------------------------------|
| 01f0 | Port alarm register test. Software error.                     |
| 0280 | SYNC energy detector test. Circuit pack identification wrong. |
| 0210 | SYNC energy detector test. Error bit not set.                 |
| 0240 | SYNC energy detector test. Overall error summary not set.     |

**Note:** Involves CCNI register; could be a CCNI problem.

|      |                                                                               |
|------|-------------------------------------------------------------------------------|
| 02a0 | SYNC energy detector test. Error bit not cleared.                             |
| 0220 | SYNC energy detector test. Error returns after clear.                         |
| 02b0 | SYNC energy detector test. Summary returns after clear.                       |
| 02f0 | SYNC energy detector test. Software error.                                    |
| 031N | Port alarm in-service test. Port alarm set in ESR N. N=0-2.                   |
| 038N | Port Alarm in-service test. Circuit pack identification wrong in ESR N.       |
| 034N | Port alarm in-service test. Overall error bit not set when test bus B. B=0-3. |

**Note:** Involves CCNI register; could be a CCNI problem.

|      |                                                                 |
|------|-----------------------------------------------------------------|
| 03aN | Port alarm in-service test. Error bit not cleared in ESR N.     |
| 032N | Port alarm in-service test. Error returns after clear in ESR N. |
| 03b0 | Port alarm in-service test. Summary returns after clear.        |

**Note:** Involves CCNI register; could be a CCNI problem.

|      |                                             |
|------|---------------------------------------------|
| 03f0 | Port alarm in-service test. Software error. |
| 0b00 | Could not initialize pack.                  |

**d5 - d0** - Hexadecimal raw data bytes relating to the failed diagnostic detected.

**d5** - CCNI Error Source Register 5

Each data field contains sixteen bits. The significance of each data field and its individual bits is as follows:

| <i>Bit</i> | <i>Explanation</i>                        |
|------------|-------------------------------------------|
| 15-8       | Don't care                                |
| 7          | Error on autonomous switch enable circuit |
| 6          | Error on BSR parity                       |
| 5          | Parity error on high byte of data         |
| 4          | Parity error on low byte of data          |
| 3          | Address bus parity error                  |
| 2          | Synchronizer error                        |
| 1          | Error on CCB 6                            |
| 0          | Error on CCB 5                            |

**d4** - CCNI Error Source Register 4.

Each bit indicates an error on a pack connected to this CCNI.

| <i>Bit</i> | <i>Explanation</i>     |
|------------|------------------------|
| 15         | Error on CCB 4         |
| 14         | Error on CCB 3         |
| 13         | Error on CCB 2         |
| 12         | Error on CCB 1         |
| 11         | Error on FTM 4, Unit 6 |
| 10         | Error on FTM 3, Unit 6 |
| 09         | Error on FTM 2, Unit 6 |
| 08         | Error on FTM 1, Unit 6 |
| 07         | Error on FTM 4, Unit 5 |
| 06         | Error on FTM 3, Unit 5 |
| 05         | Error on FTM 2, Unit 5 |
| 04         | Error on FTM 1, Unit 5 |
| 03         | Error on FTM 4, Unit 4 |
| 02         | Error on FTM 3, Unit 4 |
| 01         | Error on FTM 2, Unit 4 |
| 00         | Error on FTM 1, Unit 4 |

**d3** - CCNI Error Source Register 3.

Each bit indicates an error on a pack connected to this CCNI.

| <i>Bit</i> | <i>Explanation</i>     |
|------------|------------------------|
| 15         | Error on FTM 4, Unit 3 |
| 14         | Error on FTM 3, Unit 3 |
| 13         | Error on FTM 2, Unit 3 |
| 12         | Error on FTM 1, Unit 3 |
| 11         | Error on FTM 4, Unit 2 |
| 10         | Error on FTM 3, Unit 2 |
| 09         | Error on FTM 2, Unit 2 |
| 08         | Error on FTM 1, Unit 2 |
| 07         | Error on FTM 4, Unit 1 |
| 06         | Error on FTM 3, Unit 1 |
| 05         | Error on FTM 2, Unit 1 |
| 04         | Error on FTM 1, Unit 1 |
| 03         | Error on TSI 66        |
| 02         | Error on TSI 56        |
| 01         | Error on TSI 46        |
| 00         | Error on TSI 36        |



**d2** - CCNI Error Source Register 2.

Each bit indicates an error on a pack connected to this CCNI.

| <i>Bit</i> | <i>Explanation</i> |
|------------|--------------------|
| 15         | Error on TSI 26    |
| 14         | Error on TSI 16    |
| 13         | Error on TSI 65    |
| 12         | Error on TSI 55    |
| 11         | Error on TSI 45    |
| 10         | Error on TSI 35    |
| 09         | Error on TSI 25    |
| 08         | Error on TSI 15    |
| 07         | Error on TSI 64    |
| 06         | Error on TSI 54    |
| 05         | Error on TSI 44    |
| 04         | Error on TSI 34    |
| 03         | Error on TSI 24    |
| 02         | Error on TSI 14    |
| 01         | Error on TSI 63    |
| 00         | Error on TSI 53    |

**d1** - CCNI Error Source Register 1.

Each bit indicates an error on a pack connected to this CCNI.

| <i>Bit</i> | <i>Explanation</i> |
|------------|--------------------|
| 15         | Error on TSI 43    |
| 14         | Error on TSI 33    |
| 13         | Error on TSI 23    |
| 12         | Error on TSI 13    |
| 11         | Error on TSI 62    |
| 10         | Error on TSI 52    |
| 09         | Error on TSI 42    |
| 08         | Error on TSI 32    |
| 07         | Error on TSI 22    |
| 06         | Error on TSI 12    |
| 05         | Error on TSI 61    |
| 04         | Error on TSI 51    |
| 03         | Error on TSI 41    |
| 02         | Error on TSI 31    |
| 01         | Error on TSI 21    |
| 00         | Error on TSI 11    |

**d0** - Contents of Bus Status Register on CCNI

| <i>Bit</i> | <i>Explanation</i>                                                                                                                                          |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15-04      | Not used.                                                                                                                                                   |
| 03         | Indicates what side of the network is active. This bit is read by the unit controllers.                                                                     |
| 02         | Indicates what side of the network is active. This bit is written by the MP.                                                                                |
| 01         | ASE (Autonomous Switch Enable) bit<br>1 = ASE circuit controls the value of Bit 02<br>0 = MP controls the value of Bit 02<br>This bit is read by the units. |
| 00         | Odd parity over bits 02-00 of this register.                                                                                                                |

**cc** - Hexadecimal condition code

**cc Explanation**

**02 Subject entity is not equipped**  
**03 Subject entity is in service**  
**39 Not enough TSIs for CCB test**  
**3A No unmapped slots on a bus**

---

## **DGN,CCI,CFT,X**

---

### **DIAGNOSTICS, CCI AND BT PACKS**

#### **Explanation Of Command**

---

This command requests diagnostics to be run on the clock and control interface (CCI) and the bus terminator (BT) packs.

#### **Command**

---

[I.41251]

**DGN:FRM xy,SEQ ww:CCI s[,CFT X'vwxy]!**

#### **Completion Message**

---

[O.41251]

**M hh:mm:ss xy,ww n[vv] DGN CCI s ATP COMPL**

[O.41252]

**M hh:mm:ss xy,ww n[vv] DGN CCI s CATP CC COMPL**

[O.41253]

**M hh:mm:ss xy,ww n[vv] DGN CCI s[ BT sf] STF ppqq 3 LN MSG:  
wd21 wd20 wd19 wd18 wd17 wd16 wd15 wd14 wd13 wd12 wd11  
wd10 wd09 wd08 wd07 wd06 wd05 wd04 wd03 wd02 wd01 wd00 COMPL**

#### **Denial Message**

---

[O.41251.01]

**M hh:mm:ss xy,ww n[vv] DGN CCI s[ BT sf] COND cc DNY**

## Autonomous Message

[O.41251]

**I** hh:mm:ss xy,ww n[vv] DGN CCI s ATP COMPL

[O.41251.01]

**I** hh:mm:ss xy,ww n[vv] DGN CCI s[ BT sf] COND cc DNY

## Explanation Of Parameters

|             |                                                          |
|-------------|----------------------------------------------------------|
| <b>CCI</b>  | - Clock and control interface                            |
| <b>s</b>    | - Cross-connect side number (0 or 1)                     |
| <b>CFT</b>  | - Craft code                                             |
| <b>vwxy</b> | - Diagnostic test number (hexadecimal)                   |
|             | <i>Test</i> <span style="float:right"><i>vwxy</i></span> |
|             | Address and Data Parity Exercise 0001                    |
|             | CCI Sync and Clock Exercise 0002                         |
|             | ETSI alarm exercise 0004                                 |
|             | Sync summary alarm exercise 0008                         |
|             | Unit Summary Alarm Exercise 0010                         |
|             | CCI Power Alarm Exercise 0020*                           |
|             | Bus Status Register Parity Test 0040                     |
|             | Logic Cell Array (LCA) readback Test 0080                |
|             | Bus Termination (BT) Pack Alarm Exercise 0100            |
|             | Out-of-service Bus Status Register                       |
|             | Diagnostics 0200*                                        |
|             | CCI reset register check 0400*                           |
|             | ETSI reset register check 0800*                          |

\* Can be run only when the Expanded Cross-Connect Network (ECCN) side is out-of-service

The optional craft diagnostic code field indicates which test(s) of the diagnostic is to be run under craft control. If this field is omitted, all tests of this diagnostic will be run.

**BT** - Bus termination

**sf** - BT identifier

**s** - Cross-connect side number (0 or 1)

**f** - Failed BT indicator

*f* *Explanation*

1 BT 1

2 BT 2

B Both BTs

**ATP** - All tests passed

**CATP** - Conditional all tests passed

**cc** - Completion condition code (hexadecimal) (see cc for explanation)

**STF** - Some tests failed

**ppqq** - Trouble number for the craft (hexadecimal)

pp - Failing diagnostic number

qq - Test number

*ppqq* *Explanation*

0001 Address and Data Parity Exercise failed

0002 CCI Sync and Clock Exercise failed

0004 ETSI alarm exercise failed

0008 Sync summary alarm exercise failed

0010 Unit Summary Alarm Exercise failed

0020\* CCI Power Alarm Exercise failed

0040 Bus Status Register Parity Test failed

0080 Logic Cell Arrays (LCA) readback Test failed

0100 Bus Terminator (BT) Pack Alarm Exercise failed

0200\* Out-of-service Bus Status Register Diagnostics failed

0400\* CCI reset register check failed

0800\* ETSI reset register check failed

8000 CCI failed hardware initialization

\* ECCN out-of-service test

wd21, ..., wd00

- Raw data words

These words are related to the diagnostic failure. Each word contains two bytes, and each byte is shown as a 2-digit hexadecimal number.

**cc** - Hexadecimal condition code

**cc Explanation**

**02 Subject entity is not equipped**  
**03 Subject entity is in service**  
**55 Invalid CFT code**  
**56 Unrunnable CFT code**

## **DGN,CCNI,CFT,X**

### **DIAGNOSE CCNI**

#### **Explanation Of Command**

This message requests diagnostics to be run on the cross-connect network interface (CCNI).

#### **Command**

[I.41201]

**DGN:FRM xy,SEQ ww:CCNI s[,CFT X'vwxy]!**

#### **Completion Message**

[O.41201]

**M hh:mm:ss xy,ww n[vv] DGN CCNI s ATP COMPL**

[O.41202]

**M hh:mm:ss xy,ww n[vv] DGN CCNI s CATP cc COMPL**

[O.41203]

**M hh:mm:ss xy,ww n[vv] DGN CCNI s STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2><d1> <d0> COMPL**

#### **Denial Message**

[O.41201.01]

**M hh:mm:ss xy,ww n[vv] DGN CCNI COND cc DNY**

## Autonomous Message

[O.41201]

**I** hh:mm:ss xy,ww DGN CCNI s ATP COMPL

[O.41202]

**I** hh:mm:ss xy,ww DGN CCNI s CATP cc COMPL

[O.41203]

**I** hh:mm:ss xy,ww DGN CCNI s STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL

[O.41201.01]

**I** hh:mm:ss xy,ww DGN CCNI COND cc DNY

## Explanation Of Parameters

**CCNI** - Cross-connect network interface

**s** - Cross-connect side number (0 or 1)

**CFT** - Craft

The optional craft diagnostic code field indicates which test(s) of the diagnostic is to be run under craft control. If this field is omitted, all tests of this diagnostic will be run. All diagnostic tests can be run in or out of service.

**vwxy** - Diagnostic test number

| Test                         | vwxy |
|------------------------------|------|
| Unmask test                  | 0001 |
| Lowbyte/highbyte parity test | 0002 |
| ESR/EMR test                 | 0004 |
| Bus status register test     | 0008 |
| Autonomous switch test       | 0010 |
| Address bus parity test      | 0020 |

**ATP** - All tests passed

**STF** - Some tests failed



**ppqq** - Trouble number for the craft

pp - Failing diagnostic number in hexadecimal form

qq - Test number in hexadecimal form

| <i>ppqq</i> | <i>Explanation</i>                                                                                                                                          |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0110        | Autonomous switch enable test: error bit not set                                                                                                            |
| 0120        | Error bit returns after clear                                                                                                                               |
| 01f0        | Software error                                                                                                                                              |
| 0210        | Bus status register test: error bit not set                                                                                                                 |
| 0220        | Error bit returns after clear                                                                                                                               |
| 02f0        | Software error                                                                                                                                              |
| 0311        | Low/high byte parity test: low byte parity error not set                                                                                                    |
| 0312        | High byte parity error not set                                                                                                                              |
| 0313        | Low and high byte errors not set                                                                                                                            |
| 0320        | Errors return after clear                                                                                                                                   |
| 03f0        | Software error                                                                                                                                              |
| 0520        | Unmask test: unmask failed                                                                                                                                  |
| 05f0        | Software error                                                                                                                                              |
| 0620        | Mask test: error bits set on entry                                                                                                                          |
| 06c0        | Mask bits failed to set                                                                                                                                     |
| 06f0        | Software error                                                                                                                                              |
| 071R        | Error bit not set                                                                                                                                           |
| 074R        | Overall error summary bit does not set (this may involve a problem with the BX board, so if replacing this pack doesn't solve the problem, replace the BX)  |
| 07bR        | Overall summary bit returns after clear (this may involve a problem with the BX board, so if replacing this pack doesn't solve the problem, replace the BX) |
| 07cR        | ESR/EMR tests: mask bit does not set: R is EMR or ESR number--[1,5] B is bit number--[0,f]                                                                  |
| 07dR        | Mask bit does not clear                                                                                                                                     |
| 07f0        | Software error                                                                                                                                              |
| 0810        | Address bus parity test: error bit not set                                                                                                                  |
| 0820        | Error bit returns after clear                                                                                                                               |
| 08a0        | Error bit not cleared                                                                                                                                       |
| 08f0        | Software error                                                                                                                                              |
| 0b00        | Could not initialize pack                                                                                                                                   |

**CATP** - Conditional all tests passed

**cc** - Hexadecimal condition code

**d5-d0** - Hexadecimal raw data bytes relating to the failed diagnostic detected.

**d5** - CCNI Error Source Register 5

Each data field contains sixteen bits. The significance of each data field and its individual bits is as follows:

| <i>Bit</i> | <i>Explanation</i>                        |
|------------|-------------------------------------------|
| 15-8       | Don't care                                |
| 7          | Error on autonomous switch enable circuit |
| 6          | Error on BSR parity                       |
| 5          | Parity error on high byte of data         |
| 4          | Parity error on low byte of data          |
| 3          | Address bus parity error                  |
| 2          | Synchronizer error                        |
| 1          | Error on CCB 6                            |
| 0          | Error on CCB 5                            |

**d4** - CCNI Error Source Register 4. Each bit indicates an error on a pack connected to this CCNI.

| <i>Bit</i> | <i>Explanation</i>     |
|------------|------------------------|
| 15         | Error on CCB 4         |
| 14         | Error on CCB 3         |
| 13         | Error on CCB 2         |
| 12         | Error on CCB 1         |
| 11         | Error on FTM 4, Unit 6 |
| 10         | Error on FTM 3, Unit 6 |
| 09         | Error on FTM 2, Unit 6 |
| 08         | Error on FTM 1, Unit 6 |
| 07         | Error on FTM 4, Unit 5 |
| 06         | Error on FTM 3, Unit 5 |
| 05         | Error on FTM 2, Unit 5 |
| 04         | Error on FTM 1, Unit 5 |
| 03         | Error on FTM 4, Unit 4 |
| 02         | Error on FTM 3, Unit 4 |
| 01         | Error on FTM 2, Unit 4 |
| 00         | Error on FTM 1, Unit 4 |

**d3** - CCNI Error Source Register 3. Each bit indicates an error on a pack connected to this CCNI.

| <i>Bit</i> | <i>Explanation</i>     |
|------------|------------------------|
| 15         | Error on FTM 4, Unit 3 |
| 14         | Error on FTM 3, Unit 3 |
| 13         | Error on FTM 2, Unit 3 |
| 12         | Error on FTM 1, Unit 3 |
| 11         | Error on FTM 4, Unit 2 |
| 10         | Error on FTM 3, Unit 2 |
| 09         | Error on FTM 2, Unit 2 |
| 08         | Error on FTM 1, Unit 2 |
| 07         | Error on FTM 4, Unit 1 |
| 06         | Error on FTM 3, Unit 1 |
| 05         | Error on FTM 2, Unit 1 |
| 04         | Error on FTM 1, Unit 1 |
| 03         | Error on TSI 66        |
| 02         | Error on TSI 56        |
| 01         | Error on TSI 46        |
| 00         | Error on TSI 36        |

**d2** - CCNI Error Source Register 2. Each bit indicates an error on a pack connected to this CCNI.

| <i>Bit</i> | <i>Explanation</i> |
|------------|--------------------|
| 15         | Error on TSI 26    |
| 14         | Error on TSI 16    |
| 13         | Error on TSI 65    |
| 12         | Error on TSI 55    |
| 11         | Error on TSI 45    |
| 10         | Error on TSI 35    |
| 09         | Error on TSI 25    |
| 08         | Error on TSI 15    |
| 07         | Error on TSI 64    |
| 06         | Error on TSI 54    |
| 05         | Error on TSI 44    |
| 04         | Error on TSI 34    |
| 03         | Error on TSI 24    |
| 02         | Error on TSI 14    |
| 01         | Error on TSI 63    |
| 00         | Error on TSI 53    |

**d1** - CCNI Error Source Register 1. Each bit indicates an error on a pack connected to this CCNI.

| <i>Bit</i> | <i>Explanation</i> |
|------------|--------------------|
| 15         | Error on TSI 43    |
| 14         | Error on TSI 33    |
| 13         | Error on TSI 23    |
| 12         | Error on TSI 13    |
| 11         | Error on TSI 62    |
| 10         | Error on TSI 52    |
| 09         | Error on TSI 42    |
| 08         | Error on TSI 32    |
| 07         | Error on TSI 22    |
| 06         | Error on TSI 12    |
| 05         | Error on TSI 61    |
| 04         | Error on TSI 51    |
| 03         | Error on TSI 41    |
| 02         | Error on TSI 31    |
| 01         | Error on TSI 21    |
| 00         | Error on TSI 11    |

**d0** - Contents of Bus Status Register on CCNI

| <i>Bit</i> | <i>Explanation</i>                                                                                                                                          |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15-04      | Not used.                                                                                                                                                   |
| 03         | Indicates what side of the network is active. This bit is read by the unit controllers.                                                                     |
| 02         | Indicates what side of the network is active. This bit is written by the MP.                                                                                |
| 01         | ASE (Autonomous Switch Enable) bit<br>1 = ASE circuit controls the value of Bit 02<br>0 = MP controls the value of Bit 02<br>This bit is read by the units. |
| 00         | Odd parity over bits 02-00 of this register.                                                                                                                |

**cc** - Hexadecimal condition code

**cc Explanation**

**55 Invalid CFT code**

**56 Unrunnable CFT code**

## **DGN,CI,CFT,X**

### **DIAGNOSE COMMUNICATIONS INTERFACE**

#### **Explanation Of Command**

This message requests diagnostics to be run on the communications interface (CI). The optional craft (CFT) field specifies which test(s) vwxy is to be run on the CI. The remainder of the CI diagnostics will then not be run.

An in progress message (O.41004) is output every 20 seconds while CI is being diagnosed until the command response or the autonomous report is output.

#### **Command**

[I.41031]

**DGN:FRM xy,SEQ ww:CI[,CFT X'vwxy]!**

#### **Completion Message**

[O.41031]

**M hh:mm:ss xy,ww n[vv] DGN CI ATP COMPL**

[O.41032]

**M hh:mm:ss xy,ww n[vv] DGN CI CATP    COMPL**

[O.41033]

**M hh:mm:ss xy,ww n[vv] DGN CI STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL**

### Denial Message

---

[O.41031.01]

M hh:mm:ss xy,ww n[vv] DGN CI COND cc DNY

### Autonomous Message

---

[O.41031]

I hh:mm:ss xy,ww DGN CI ATP COMPL

[O.41032]

I hh:mm:ss xy,ww DGN CI CATP cc COMPL

[O.41033]

I hh:mm:ss xy,ww DGN CI STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL

[O.41031.01]

I hh:mm:ss xy,ww DGN CI COND cc DNY

### Explanation Of Parameters

---

**CI** - Communications Interface

**CFT** - Craft

**vwxy** - Diagnostic test number (hexadecimal)

| Test                             | vwxy  |
|----------------------------------|-------|
| CI RAM Test                      | 0001* |
| CI ROM Test                      | 0002  |
| CI DMA Controller Test           | 0004* |
| CI LAN Controller Test           | 0008* |
| CI Acknowledge Test              | 0010  |
| CI Timer Test.                   | 0020  |
| CI Debug Port Test               | 0040* |
| CI Additional Memory Enable Test | 0080* |

\*Out-of-service test.

**ATP** - All Tests Passed

**CATP** - Conditional All Tests Passed  
**cc** - Hexadecimal completion condition code  
*To interpret values of cc see the cc table below.*

**STF** - Some Tests Failed

**ppqq** - Trouble number for the craft (hexadecimal)  
pp - Failing diagnostic number  
qq - Test number

| <i>ppqq</i> | <i>Explanation</i>                                 |
|-------------|----------------------------------------------------|
| 0101        | RAM Data Fail                                      |
| 0102        | RAM Address Fail                                   |
| 0103        | RAM Access Fault                                   |
| 0104        | RAM Refresh Fail                                   |
| 0105        | RAM Parity Fail                                    |
| 0200        | ROM Fail                                           |
| 0400        | Timer Fail                                         |
| 0500        | Input Port Fail                                    |
| 0600        | DMA Controller Fail                                |
| 0700        | LAN Controller Fail                                |
| 0900        | Acknowledge Fail                                   |
| 0831        | The input port is unstable                         |
| 0832        | The timer failed to generate an interrupt in time  |
| 0840        | Timeout occurred during loopback                   |
| 0841        | Character overrun occurred during loopback         |
| 0842        | Framing error occurred during loopback             |
| 0843        | Looped character had a parity error                |
| 0844        | Received break during loopback test                |
| 0845        | Transmit and Receive buffers don't match           |
| 0846        | Too many characters looped back                    |
| 0847        | An unknown condition occurred                      |
| 0301        | Additional memory IS enabled when it should not be |
| 0302        | Additional memory IS NOT enabled when it should be |

**d5 - d0** - Hexadecimal raw data bytes relating to the failed diagnostic detected.

| <i>Data Byte</i> | <i>Value</i> |
|------------------|--------------|
| d5               | Unused       |
| d4               | Unused       |
| d3               | Unused       |
| d2               | Unused       |
| d1               | Unused       |
| d0               | Unused       |

**cc** - Hexadecimal condition code

**cc Explanation**

**55 Invalid CFT code**

**56 Unrunnable CFT code**



## **DGN,ETSI,CFT,X**

### **DIAGNOSE ETSI**

#### **Explanation Of Command**

This message requests diagnostics to be run on an expanded time slot interchanger (ETSI).

#### **Command**

[I.41261]

**DGN:FRM xy,SEQ ww:ETSI sqq[,CFT X'vwxy]!**

#### **Completion Message**

[O.41261]

**M hh:mm:ss xy,ww n[vv] DGN ETSI sqq ATP COMPL**

[O.41262]

**M hh:mm:ss xy,ww n[vv] DGN ETSI sqq CATP kk COMPL**

[O.41263]

**M hh:mm:ss xy,ww n[vv] DGN ETSI sqq[ ETSI snn] STF ppqq \**

**3 LN MSG:**

**wd15 wd14 wd13 wd12wd11 wd10 wd09 wd08**

**wd07 wd06 wd05 wd04 wd03 wd02 wd01 wd00 COMPL**

#### **Denial Message**

[O.41261.01]

**M hh:mm:ss xy,ww n[vv] DGN ETSI sqq COND cc DNY**

## Autonomous Message

Not applicable.

## Explanation Of Parameters

|             |                                                    |
|-------------|----------------------------------------------------|
| <b>ETSI</b> | - Expanded Time slot Interchanger                  |
| <b>s</b>    | - Side number (0 or 1)                             |
| <b>qq</b>   | - Unit number (01 through 16)                      |
| <b>CFT</b>  | - Craft code                                       |
| <b>vwx</b>  | - Diagnostic test number (hexadecimal)             |
|             | <i>Test</i>                                        |
|             | <i>vwx</i>                                         |
|             | Clock and Sync exercise 0001                       |
|             | Control RAM and data RAM memory test 0002*         |
|             | Address and data parity exercise 0004              |
|             | Power monitor exercise 0008                        |
|             | Data source time slot exercise 0010                |
|             | In-service port alarm exercise 0020                |
|             | Out-of-service port alarm exercise 0040*           |
|             | Data source and access test 0080                   |
|             | Receive multiplexer port alarm 0100                |
|             | Control RAM parity exercise 0400                   |
|             | Unmapped code test 0800*                           |
|             | Data RAM unmapped test 1000*                       |
|             | * Can only be tested if the ETSI is out of service |

The optional craft diagnostic test code field indicates which test(s) of the diagnostic is to be run under craft control. If this field is not entered, all tests of this diagnostic will be run.

**nn** - Unit number of the questionable in-service ETSI pack, (01 through 16)

**ATP** - All tests passed

This applies to the diagnostic of the ETSI pack, its connection with other in-service ETSIs and its cable.

**STF** - Some tests failed

This applies to the diagnostic of the ETSI pack, its connection with other in-service ETSIs and its cable.

**ppqq** - Trouble number for the craft (hexadecimal)

pp - Failing diagnostic number  
qq - Test number

| <i>ppqq</i> | <i>Explanation</i>                            |
|-------------|-----------------------------------------------|
| 0001        | Clock and sync exercise failed                |
| 0002        | Control RAM and data RAM memory test failed   |
| 0004        | Address and data parity exercise failed       |
| 0008        | Power monitor exercise failed                 |
| 0010        | Data source time slot exercise failed         |
| 0020        | In-service port alarm exercise failed         |
| 0040        | Out-of-service port alarm test failed         |
| 0080        | Data source and access test failed            |
| 0100        | Receive multiplexer port alarm test failed    |
| 0200        | Transmit demultiplexer port alarm test failed |
| 0400        | Control RAM parity exercise failed            |
| 0800        | Unmapped code test failed                     |
| 1000        | Data RAM unmapped test failed                 |
| 8000        | ETSI Hardware initialization failed           |

**wd15, ..., wd00**

- Raw data

Sixteen raw data words relating to the failed diagnostic detected. Each data word contains two bytes, and each byte is presented as a two-digit hexadecimal number. The interpretation of raw data values cannot be done by a craftsman.

|             |                                             |
|-------------|---------------------------------------------|
| <b>wd15</b> | - Low-level Diagnostic Actual Data          |
| <b>wd14</b> | - Low-level Diagnostic Expected Data        |
| <b>wd13</b> | - Low-level Diagnostic Return Code          |
| <b>wd12</b> | - CCI ETSI Mask Register                    |
| <b>wd11</b> | - CCI ETSI ESR4                             |
| <b>wd10</b> | - CCI ETSI ESR3                             |
| <b>wd09</b> | - CCI ETSI ESR2                             |
| <b>wd08</b> | - CCI ETSI ESR1                             |
| <b>wd07</b> | - ETSI Receive Demultiplexer Mask Register  |
| <b>wd06</b> | - ETSI Receive Multiplexer Mask Register    |
| <b>wd05</b> | - ETSI Data Ram Alarm Register              |
| <b>wd04</b> | - ETSI Control Ram Port Alarm Register      |
| <b>wd03</b> | - ETSI Control Ram Exercise-Status Register |
| <b>wd02</b> | - ETSI Transmit Demultiplexer Status        |
| <b>wd01</b> | - ETSI Receive Multiplexer Status           |
| <b>wd00</b> | - ETSI Circuit Pack Summary Register        |

**CATP** - Conditional all tests passed

**kk** - Hexadecimal completion condition code

To interpret the values of kk see cc below.

**cc** - Hexadecimal condition code

**cc Explanation**

**00** No conditions

**02** Subject entity is not equipped

**03** Subject entity is in service

**10** Unit is not equipped

**55** Invalid CFT code

**56** Unrunnable CFT code

**A9** No unmapped time slot

**CE** CCI is out of service

---

## **DGN,ETISIS,ECCN,ALL**

---

### **DIAGNOSTICS**

#### **Explanation Of Command**

---

This message requests diagnostic tests to be run on ALL expanded time slot interchangers (ETISs) on an expanded cross-connect network (ECCN) side.

#### **Command**

---

[I.41271]

**DGN:FRM xy,SEQ ww:ETISIS,ECCN s,ALL!**

#### **Completion Message**

---

[O.41271]

**M hh:mm:ss xy,ww n[vv] DGN ETISIS ECCN s ALL 5 LN MSG:**  
**TOTAL ETISIS tt**  
**s01 r nn s02 r nn s03 r nn s04 r nn s05 r nn \**  
**s06 r nn**  
**s07 r nn s08 r nn s09 r nn s10 r nn s11 r nn \**  
**s12 r nn**  
**s13 r nn s14 r nn s15 r nn s16 r nn \**  
**COND kk COMPL**

#### **Denial Message**

---

[O.41271.01]

**M hh:mm:ss xy,ww n[vv] DGN ETISIS ECCN s ALL COND cc DNY**

## **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

---

**ET SIS** - Expanded time slot interchangers

**ECCN** - Expanded cross-connect network

**s** - Side number (0 or 1)

**pa** - Priority of action

*pa*            *Explanation*

M^            Manual response

I^            Information from an autonomous activity

**r** - Diagnostic status for an individual ETSI

*r*            *Explanation*

A            All tests passed (ATP)

C            Conditional all tests passed (CATP)

S            Some tests failed (STF)

-            unequipped ETSI

**nn** - Condition code (hexadecimal) for an individual ETSI

**nn**            *Explanation*

--            Unequipped ETSI

To interpret other values of nn see cc below.

**tt** - Total number of ETSIs equipped in the ECCN side (01 through 16)

**kk** - Completion condition code (hexadecimal) for the whole message

To interpret values of kk see cc below.

**cc** - Condition code (hexadecimal)

**cc** - Hexadecimal condition code

**cc Explanation**

|    |                                |
|----|--------------------------------|
| 02 | Subject entity is not equipped |
| 03 | Subject entity is in service   |
| 16 | SYNC TB is not equipped        |
| 17 | SYNC is out of service         |
| 55 | Invalid CFT code               |
| 56 | Unrunnable CFT code            |
| A9 | No unmapped time slot          |
| CE | CCI is out of service          |
| CF | SYNC is inservice but failed   |
| D1 | CCI is not present             |
| D4 | CCI is inservice but failed    |

## **DGN,IN,PROGRESS**

### **DIAGNOSTIC IN PROGRESS**

#### **Explanation Of Command**

This message indicates that the diagnosis of the specified entity is in progress. This message will be output every 20 seconds while waiting for the response to the diagnostic command or the autonomous diagnostic report to be output.

#### **Command**

Not applicable.

#### **Completion Message**

[O.41004]

M hh:mm:ss xy,ww n[vv] DGN <entity> IN PROGRESS

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.41005]

A hh:mm:ss xy,ww DGN <entity> IN PROGRESS



### **Explanation Of Parameters**

---

**entity** - The name of the entity being diagnosed

| <b>entity</b> | <i>Explanation</i>                       |
|---------------|------------------------------------------|
| CCB           | Cross-connect buffer                     |
| CCI           | Clock and control interface              |
| CCNI          | Cross-connect network interface (NonCEF) |
| CI            | Communications interface                 |
| DISK          | Disk                                     |
| DSPI          | Digital signal processing interface      |
| FC            | Format converter                         |
| FLI           | Facility line interface                  |
| FMT           | Formatter                                |
| FTMI          | Facility terminating module interface    |
| LINK          | Link                                     |
| MC            | Main controller                          |
| MIU           | Multiplexer interface unit               |
| MP            | Main processor                           |
| MXR           | Multiplexer                              |
| NPC           | Network processing circuit               |
| SSC           | Secondary storage controller             |
| SYNC          | Synchronizer                             |
| TAPE          | Tape                                     |
| TLI           | Timing link interface                    |
| TSI           | Time slot interchange                    |
| ETSI          | Expanded time slot interchanger          |
| XC            | Cross-connect                            |
| UC            | Unit controller                          |

## **DGN, LINK, CFT, X**

### **DIAGNOSE LINK**

#### **Explanation Of Command**

This message requests that diagnostic tests be run on an administrative link.

#### **Command**

[I.41011]

DGN:FRM xy,SEQ ww:LINK a[,CFT X'vwxy]!

#### **Completion Message**

[O.41011]

M hh:mm:ss xy,ww n[vv] DGN LINK a ATP COMPL

[O.41011]

M hh:mm:ss xy,ww n[vv] DGN LINK a STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL

#### **Denial Message**

[O.41011.01]

M hh:mm:ss xy,ww n[vv] DGN LINK a COND cc DNY

#### **Autonomous Message**

[O.41011]

I hh:mm:ss xy,ww DGN LINK a ATP COMPL

[O.41011]

**I** hh:mm:ss xy,ww    **DGN LINK a STF ppqq 2 LN MSG:**  
**<d5> <d4> <d3> <d2> <d1> <d0> COMPL**

[O.41011.01]

**I** hh:mm:ss xy,ww    **DGN LINK a COND cc DNY**

### Explanation Of Parameters

**CFT**            - Craft

**vwxy**           - Diagnostic test number

|                         |             |
|-------------------------|-------------|
| <i>test</i>             | <b>vwxy</b> |
| Link Loopback Test      | 0001        |
| Input Port & Timer Test | 0002        |

**LINK**           - Link

**a**               - Administrative link number (1 through 6)

**ATP**           - All tests passed

**STF**           - Some tests failed

**ppqq**           - Diagnostic trouble number

|             |                             |
|-------------|-----------------------------|
| <i>ppqq</i> | <i>Explanation</i>          |
| 0100        | Link fail                   |
| 0300        | DUART test fail             |
| 0400        | Timer test fail             |
| 0500        | Input/output port test fail |

**pp**              - Failing diagnostic number (hexadecimal)

**qq**              - Test number (hexadecimal)

**d5,**

**d4,**

**...,**

**d0**

- Hexadecimal raw data bytes relating to the failed diagnostic detected

These data bytes can only be interpreted by an AT&T designer.

**cc** - Hexadecimal condition code

**cc** *Explanation*

**03** Subject entity is in service

**BE** Hardware mismatch or not present

**F0** Clock absent for XPC to loop back

**55** Invalid CFT code

**56** Unrunnable CFT code

## **DGN,MC,CFT,X**

### **DIAGNOSE MAIN CONTROLLER**

#### **Explanation Of Command**

This message requests diagnostics to be run on the main controller (MC). The optional CFT field specifies which test(s) is to be run on the MC.

The DGN <entity> IN PROGRESS message (O.41004) is output every 20 seconds while the MC is being diagnosed until the command response or the autonomous report is output.

#### **Command**

[I.41001]

**DGN:FRM xy,SEQ ww:MC[,CFT X'vwxy]!**

#### **Completion Message**

[O.41001]

**M hh:mm:ss xy,ww n[vv] DGN MC ATP COMPL**

[O.41002]

**M hh:mm:ss xy,ww n[vv] DGN MC CATP    COMPL**

[O.41003]

**M hh:mm:ss xy,ww n[vv] DGN MC STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL**

## Denial Message

[O.41001.01]

M hh:mm:ss xy,ww n[vv] DGN MC COND cc DNY

## Autonomous Message

[O.41001]

I hh:mm:ss xy,ww DGN MC ATP COMPL

[O.41002]

I hh:mm:ss xy,ww DGN MC CATP cc COMPL

[O.41003]

I hh:mm:ss xy,ww DGN MC STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL

[O.41001.01]

I hh:mm:ss xy,ww DGN MC COND cc DNY

## Explanation Of Parameters

MC - Main controller

CFT - Craft

vwxy - Diagnostic test number (hexadecimal)

| <i>TEST</i>                    | <i>vwxy</i> |
|--------------------------------|-------------|
| MP Test                        | 0001        |
| PMEM Test                      | 0004†       |
| SMEM Test                      | 0008†       |
| CI Test                        | 0010        |
| EMTC/MTC Acknowledge Test      | 0020        |
| EMTC/MTC Interrupt Test        | 0040*       |
| EMTC/MTC Sanity Reg. Test      | 0080*       |
| EMTC/MTC LAN Disable Test      | 0100*       |
| EMTC/MTC Autonomous Alarm Test | 0200*       |

|                                 |       |
|---------------------------------|-------|
| EBX/BX Interrupt Test           | 0400* |
| EBX/BX Acknowledge Test         | 0800  |
| EBX/BX Data/Address Parity Test | 1000* |

\*Out-of-service test (not performed if MC is in-service)

†In-service test (not performed if MC is out-of-service or in maintenance condition (MCOND))

**ATP** - All tests passed

**CATP** - Conditional all tests passed

**cc** - Hexadecimal completion condition code

*To interpret values of cc see the table of cc values below.*

**STF** - Some tests failed

**ppqq** - Trouble number for the craft (hexadecimal)

**pp** - Failing diagnostic number

**qq** - Test number

**xx** indicates a low level test failure point which can only be interpreted by an AT&T designer.

| <b>ppqq</b> | <i>Explanation</i>               |
|-------------|----------------------------------|
| 0100        | MP Fail                          |
| 0200        | CI Fail                          |
| 0400        | PMEM Fail                        |
| 0500        | SMEM Fail                        |
| 0600        | EMTC/MTC Interrupt Fail          |
| 0700        | EMTC/MTC Acknowledge Fail        |
| 0800        | EMTC/MTC Sanity Reg. Fail        |
| 0900        | EMTC/MTC LAN Disable Fail        |
| 0E00        | EMTC/MTC Autonomous Alarm Failed |

|      |                                 |
|------|---------------------------------|
| 0A01 | EBX/BX RAM Data Fail            |
| 0A02 | EBX/BX RAM Address Fail         |
| 0A03 | EBX/BX RAM Access Fail          |
| 0A04 | EBX/BX RAM Refresh Fail         |
| 0A05 | EBX/BX RAM Parity Fail          |
| 0Bxx | EBX/BX Interrupt Fail           |
| 0C00 | EBX/BX Acknowledge Fail         |
| 0D00 | EBX/BX Data/Address Parity Fail |
| 0D01 | EBX/BX Data Parity Write Failed |
| 0D02 | EBX/BX Data Parity Read Failed  |
| 0D03 | EBX/BX Address Parity Failed    |

**d5-d0** - Hexadecimal raw data bytes relating to the failed diagnostic detected.

These data bytes can only be interpreted by an AT&T designer.

An in-progress message (O.41004) is output every 20 seconds while the MP is being diagnosed until the command response or the autonomous report is output.

**cc** - Hexadecimal condition code

**cc**    *Explanation*

|           |                                                           |
|-----------|-----------------------------------------------------------|
| <b>03</b> | Subject entity is in service                              |
| <b>04</b> | Subject entity is out of service                          |
| <b>BE</b> | Hardware mismatch or not present                          |
| <b>55</b> | Invalid CFT code                                          |
| <b>56</b> | Unrunnable CFT code                                       |
| <b>84</b> | Problem occurred while accessing SMEM or unformatted SMEM |
| <b>85</b> | Problem occurred while accessing PMEM                     |
| <b>93</b> | SMEM is not present                                       |
| <b>94</b> | SMEM unit is not restored                                 |



## **DGN,MP,CFT,X**

### **DIAGNOSE MAIN PROCESSOR**

#### **Explanation Of Command**

This message requests diagnostics to be run on the main processor (MP). If the craft (CFT) option is used, the value supplied for *vwxy* will determine the diagnostic run. The remainder of the diagnostics will then not be run. If the CFT option is not used, all the diagnostics listed under *vwxy* will be run.

An in-progress message (O.41004) is output every 20 seconds while the MP is being diagnosed until the command response or the autonomous report is output.

#### **Command**

[I.41021]

**DGN:FRM xy,SEQ ww:MP[,CFT X'vwxy]!**

#### **Completion Message**

[O.41021]

**M hh:mm:ss xy,ww n[vv] DGN MP ATP COMPL**

[O.41022]

**M hh:mm:ss xy,ww n[vv] DGN MP CATP    COMPL**

[O.41023]

**M hh:mm:ss xy,ww n[vv] DGN MP STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL**

---

### Denial Message

[O.41021.01]

M hh:mm:ss xy,ww n[vv] DGN MP COND cc DNY

---

### Autonomous Message

[O.41021]

I hh:mm:ss xy,ww DGN MP ATP COMPL

[O.41022]

I hh:mm:ss xy,ww DGN MP CATP cc COMPL

[O.41023]

I hh:mm:ss xy,ww DGN MP STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL

[O.41021.01]

I hh:mm:ss xy,ww DGN MP COND cc DNY

---

### Explanation Of Parameters

**MP** - Main Processor

**CFT** - Craft

**vwxy** - Diagnostic test number

| Test                   | vwxy  |
|------------------------|-------|
| MP RAM Test            | 0001* |
| MP ROM Test            | 0002  |
| MP DMA Controller Test | 0010* |
| MP LAN Controller Test | 0020* |
| MP Acknowledge Test    | 0080  |

\*Out-of-service test.

**ATP** - All tests passed

**CATP** - Conditional all tests passed

**cc** - Completion condition code (hexadecimal)

To interpret these codes see cc.

**STF** - Some tests failed

**ppqq** - Trouble number

pp - Failing diagnostic number (hexadecimal)

qq - Test number (hexadecimal)

**ppqq** *Explanation*

**01xx** RAM Tests Fail

**0101** RAM Data Fail

**0102** RAM Address Fail

**0103** RAM Access Fail

**0104** RAM Refresh Fail

**02xx** ROM Fail

**0500** Input Port Fail

**06xx** DMA Controller Fail

**07xx** LAN Controller Fail

**0900** Acknowledge Fail

**d5-d0** - Hexadecimal raw data bytes relating to the failed diagnostic detected.

These data bytes can only be interpreted by an AT&T designer.

An in-progress message (O.41004) is output every 20 seconds while the MP is being diagnosed until the command response or the autonomous report is output.

**cc** - Hexadecimal condition code

**cc** **Explanation**

**03** **Subject entity is in service**

**55** **Invalid CFT code**

**56** **Unrunnable CFT code**

## **DGN,NPC**

---

### **DIAGNOSE NETWORK PROCESSING CIRCUITS**

#### **Explanation Of Command**

---

This command requests the diagnosis of a range of network processing circuits (NPCs) in a Facility Terminating Unit (FTU). It cannot be used to request the diagnosis of NPCs in a digital signal processing unit.

This command will be denied if the requested NPC range crosses a unit boundary. This command cannot be used to request the diagnosis of NPCs in a DS3 unit. If this command is specified for a range of NPCs and the first or last NPC in the range request is a CEPT GAP the entire command will be denied. If the CEPT GAP is contained within the range requested the gap NPCs are ignored and all equipped NPCs are diagnosed.

#### **Command**

---

##### **Nonhierarchical**

---

[I.41361]

**DGN:[FRM xy,SEQ ww]:NPC [s]abc-[t]def!**

##### **Hierarchical**

---

[I.41361]

**DGN:[FRM xy,SEQ ww]:NPC uvmnp-uvkqr!**

---

## Completion Message

---

### Nonhierarchical

---

[O.41361]

M hh:mm:ss xy,ww n[vv] DGN NPC [s]ghi-[t]jkl TOT ttt \\  
5 LN MSG:  
r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk  
r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk  
r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk  
r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk {EOM|COMPL}

### Hierarchical

---

[O.41361]

M hh:mm:ss xy,ww n[vv] DGN NPC abcde-abcfg TOT ttt 5 LN MSG:  
r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk  
r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk  
r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk  
r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk {EOM|COMPL}

---

## Denial Message

---

### Nonhierarchical

---

[O.41361.01]

M hh:mm:ss xy,ww n[vv] DGN NPC [s]abc-[t]def COND cc DNY

### Hierarchical

---

[O.41361.01]

M hh:mm:ss xy,ww n[vv] DGN NPC uvmnp-uvkqr COND cc DNY

## Autonomous Message

---

### Nonhierarchical

---

[O.41361]

```
I hh:mm:ss xy,ww n[vv] DGN NPC [s]ghi-[t]jkl TOT ttt \
5 LN MSG:
r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk
r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk
r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk
r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk {EOM|COMPL}
```

### Hierarchical

---

[O.41361]

```
I hh:mm:ss xy,ww n[vv] DGN NPC abcde-abcfg TOT ttt 5 LN MSG:
r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk
r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk
r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk
r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk r kk {EOM|COMPL}
```

## Explanation Of Parameters

---

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number, denoting the beginning of a range.

**[t]def** - The 3- or 4-digit nonhierarchical NPC number, denoting the end of a range.

[s]abc and [t]def must be in the same unit.

**[s]ghi** - Lowest NPC number in the FTM being reported ([s]abc through [s]def)

**[t]jkl** - Highest NPC number in the FTM being reported ([s]abc through [s]def)

The command may specify an NPC range that spans more than one facility terminating module (FTM) in the facility terminating unit or it may specify all or a subset of the NPCs in a given FTM. Hence the NPC numbers reported in a message segment for a given FTM will, in general, be numbers within the range given in the input command and may include the end points of the specified range.

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

**uvmnp** - Hierarchical NPC number, denoting the beginning of a range.

**uvkqr** - Hierarchical NPC number, denoting the end of a range.

**abcde** - Lowest NPC number in the FTM being reported (**uvmnp** through **uvkqr**)

**abcfg** - Highest NPC number in the FTM being reported (**uvmnp** through **uvkqr**)

**uv, ab**

- Unit number

**m, k, c**

- Module number

**np, qr, de, fg**

- NPC number within the module

The command may specify an NPC range that spans more than one facility terminating module (FTM) in the facility terminating unit or it may specify all or a subset of the NPCs in a given FTM. Hence the NPC numbers reported in a message segment for a given FTM will, in general, be numbers within the range given in the input command and may include the end points of the specified range.

Valid values are listed below:

DE, DS, and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

**TOT** - Total**ttt** - Total number of equipped NPCs in a domestic FTM (**001** through **040**).**pa** - Priority of action**pa** *Explanation***\*\*** Major**M** Manual**r** - Result of diagnostics**r** *Explanation***A** All tests passed**C** Conditional all tests passed**S** Some tests failed**D** Diagnostics denied**N** NPC is not in the range**-** NPC is not equipped

If the diagnostic result is Some Test Failed, one output message will be generated for each NPC.



**kk** - Completion condition code for each NPC diagnostic (hexadecimal)

To interpret values of kk see cc in the condition code table. One special value is given below.

**kk**      *Explanation*

--      Not applicable

**cc** - Hexadecimal condition code

**cc**      **Explanation**

|    |                                  |
|----|----------------------------------|
| 00 | No conditions                    |
| 02 | Subject entity is not equipped   |
| 03 | Subject entity is in service     |
| 04 | Subject entity is out of service |
| 10 | Unit is not equipped             |
| 11 | UC is out of service             |
| 13 | FTMI is not equipped             |
| 14 | FTMI is out of service           |
| 15 | NPC is unequipped                |
| 36 | DSPI not equipped                |
| 37 | DSPI out-of-service              |
| 40 | FC out of service                |
| 43 | (NPC) Hardware mismatch          |
| 0B | Invalid CEPT NPC                 |
| FD | NPC range crosses unit boundary  |

## **DGN,NPC,SIDE,CFT,X**

### **DIAGNOSE NPC**

#### **Explanation Of Command**

This command requests diagnostics to be run on a single network processing circuit (NPC) in a facility terminating unit (FTU) or a digital signal processing unit (DSPU). For a Capacity Expansion Frame (CEF), if the NPC is in a DSPU (that is, NPC types MB, SR, or MJ), this message also initiates the continuity test for the cable between the NPC and its corresponding expanded time slot interchanger (ETSI). However, the continuity test will not be run if the optional craft code is entered. For a Capacity Expansion Frame (CEF), if the NPC is in a DSPU (that is, NPC types MB or CB), this message also initiates the continuity test for the cable between the NPC and its corresponding expanded time slot interchanger (ETSI). However, the continuity test will not be run if the optional craft code is entered. This command is not valid for NPCs in a DS3 unit (DS3U). If this command is specified for a single NPC and that NPC is within a CEPT gap the request will be denied.

#### **Command**

##### **Nonhierarchical**

[I.41351]

**DGN:[FRM xy,SEQ ww]:NPC [s]abc[,SIDE s][,CFT X'vwxy]!**

##### **Hierarchical**

[I.41351]

**DGN:[FRM xy,SEQ ww]:NPC uvmnp[,SIDE s][,CFT X'vwxy]!**

## **Completion Message**

---

### **Nonhierarchical**

---

[O.41351]

M hh:mm:ss xy,ww n[vv] DGN [NPC [s]abc[-[t]def]][ SIDE s] TYPE mnxyz \ ATP COMPL

[O.41352]

M hh:mm:ss xy,ww n[vv] DGN [NPC [s]abc[-[t]def]][ SIDE s] TYPE mnxyz \ CATP cc COMPL

[O.41353]

M hh:mm:ss xy,ww n[vv] DGN [NPC [s]abc[-[t]def]][ SIDE s] TYPE mnxyz \  
e LN MSG:  
[UNIT qq UPN=<upn> XPN=<xpn>[ BIT={TD|RD}bb]]\  
STF ppqq <d5> <d4> <d3> <d2> <d1> <d0> COMPL

### **Hierarchical**

---

[O.41351]

M hh:mm:ss xy,ww n[vv] DGN [NPC uvmnp[-uvmqr]][ SIDE s] TYPE mnxyz \ ATP COMPL

[O.41352]

M hh:mm:ss xy,ww n[vv] DGN [NPC uvmnp[-uvmqr]][ SIDE s] TYPE mnxyz \ CATP cc COMPL

[O.41353]

M hh:mm:ss xy,ww n[vv] DGN [NPC uvmnp[-uvmqr]][ SIDE s] TYPE mnxyz \  
e LN MSG:  
[UNIT qq UPN=<upn> XPN=<xpn>[ BIT={TD|RD}bb]]  
STF ppqq <d5> <d4> <d3> <d2> <d1> <d0> COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.41351.01]

M hh:mm:ss xy,ww n[vv] DGN NPC [s]abc[-[t]def][ SIDE s] TYPE mnxyz \  
COND cc DNY

### **Hierarchical**

---

[O.41351.01]

M hh:mm:ss xy,ww n[vv] DGN NPC uvmnp[-uvmqr][ SIDE s] TYPE mnxyz \  
COND cc DNY

## **Autonomous Message**

---

### **Nonhierarchical**

---

[O.41351]

I hh:mm:ss xy,ww DGN [NPC [s]abc[-[t]def]][ SIDE s] TYPE mnxyz \  
ATP COMPL

[O.41352]

I hh:mm:ss xy,ww DGN [NPC [s]abc[-[t]def]][ SIDE s] TYPE mnxyz \  
CATP cc COMPL

[O.41353]

I hh:mm:ss xy,ww DGN [NPC [s]abc[-[t]def]][ SIDE s] TYPE mnxyz \  
e LN MSG:  
[UNIT qq UPN=<upn> XPN=<xpn>[ BIT={TD|RD}bb]]\  
STF ppqq <d5> <d4> <d3> <d2> <d1> <d0> COMPL

### **Hierarchical**

---

[O.41351]

I hh:mm:ss xy,ww DGN [NPC uvmnp[-uvmqr]][ SIDE s] TYPE mnxyz \  
ATP COMPL

[O.41352]

**I** hh:mm:ss xy,ww DGN [NPC uvmnp[-uvmqr]][ SIDE s] \  
TYPE mnxyz CATP cc COMPL

[O.41353]

**I** hh:mm:ss xy,ww DGN [NPC uvmnp[-uvmqr]][ SIDE s] TYPE mnxyz \  
e LN MSG:  
[UNIT qq UPN=<upn> XPN=<xpn>[ BIT={TD|RD}bb]]  
STF ppqq <d5> <d4> <d3> <d2> <d1> <d0> COMPL

### Explanation Of Parameters

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |

| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

| Unit<br>1  | Unit<br>2  | Unit<br>3  | Unit<br>4  | Unit<br>5  | Unit<br>6  |
|------------|------------|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| <b>001</b> | <b>161</b> | <b>321</b> | <b>481</b> | <b>641</b> | <b>801</b> |
| <b>021</b> | <b>181</b> | <b>341</b> | <b>501</b> | <b>661</b> | <b>821</b> |
| <b>041</b> | <b>201</b> | <b>361</b> | <b>521</b> | <b>681</b> | <b>841</b> |
| <b>061</b> | <b>221</b> | <b>381</b> | <b>541</b> | <b>701</b> | <b>861</b> |
| <b>081</b> | <b>241</b> | <b>401</b> | <b>561</b> | <b>721</b> | <b>881</b> |
| <b>101</b> | <b>261</b> | <b>421</b> | <b>581</b> | <b>741</b> | <b>901</b> |
| <b>121</b> | <b>281</b> | <b>441</b> | <b>601</b> | <b>761</b> | <b>921</b> |
| <b>141</b> | <b>301</b> | <b>461</b> | <b>621</b> | <b>781</b> | <b>941</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

| Unit<br>1   | Unit<br>2   | Unit<br>3   | Unit<br>4   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0001</b> | <b>0161</b> | <b>0321</b> | <b>0481</b> |
| <b>0021</b> | <b>0181</b> | <b>0341</b> | <b>0501</b> |
| <b>0041</b> | <b>0201</b> | <b>0361</b> | <b>0521</b> |
| <b>0061</b> | <b>0221</b> | <b>0381</b> | <b>0541</b> |
| <b>0081</b> | <b>0241</b> | <b>0401</b> | <b>0561</b> |
| <b>0101</b> | <b>0261</b> | <b>0421</b> | <b>0581</b> |
| <b>0121</b> | <b>0281</b> | <b>0441</b> | <b>0601</b> |
| <b>0141</b> | <b>0301</b> | <b>0461</b> | <b>0621</b> |

| Unit<br>5   | Unit<br>6   | Unit<br>7   | Unit<br>8   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0641</b> | <b>0801</b> | <b>0961</b> | <b>1121</b> |
| <b>0661</b> | <b>0821</b> | <b>0981</b> | <b>1141</b> |
| <b>0681</b> | <b>0841</b> | <b>1001</b> | <b>1161</b> |
| <b>0701</b> | <b>0861</b> | <b>1021</b> | <b>1181</b> |
| <b>0721</b> | <b>0881</b> | <b>1041</b> | <b>1201</b> |
| <b>0741</b> | <b>0901</b> | <b>1061</b> | <b>1221</b> |
| <b>0761</b> | <b>0921</b> | <b>1081</b> | <b>1241</b> |
| <b>0781</b> | <b>0941</b> | <b>1101</b> | <b>1261</b> |
| Unit<br>9   | Unit<br>10  | Unit<br>11  | Unit<br>12  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1281</b> | <b>1441</b> | <b>1601</b> | <b>1761</b> |
| <b>1301</b> | <b>1461</b> | <b>1621</b> | <b>1781</b> |
| <b>1321</b> | <b>1481</b> | <b>1641</b> | <b>1801</b> |
| <b>1341</b> | <b>1501</b> | <b>1661</b> | <b>1821</b> |
| <b>1361</b> | <b>1521</b> | <b>1681</b> | <b>1841</b> |
| <b>1381</b> | <b>1541</b> | <b>1701</b> | <b>1861</b> |
| <b>1401</b> | <b>1561</b> | <b>1721</b> | <b>1881</b> |
| <b>1421</b> | <b>1581</b> | <b>1741</b> | <b>1901</b> |
| Unit<br>13  | Unit<br>14  | Unit<br>15  | Unit<br>16  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1921</b> | <b>2081</b> | <b>2241</b> | <b>2401</b> |
| <b>1941</b> | <b>2101</b> | <b>2261</b> | <b>2421</b> |
| <b>1961</b> | <b>2121</b> | <b>2281</b> | <b>2441</b> |
| <b>1981</b> | <b>2141</b> | <b>2301</b> | <b>2461</b> |
| <b>2001</b> | <b>2161</b> | <b>2321</b> | <b>2481</b> |
| <b>2021</b> | <b>2181</b> | <b>2341</b> | <b>2501</b> |
| <b>2041</b> | <b>2201</b> | <b>2361</b> | <b>2521</b> |
| <b>2061</b> | <b>2221</b> | <b>2381</b> | <b>2541</b> |

**uvmnp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The values are:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

MB, SR, and MJ type numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

| Unit         | Module     | NPC       |
|--------------|------------|-----------|
| <b>01-16</b> | <b>1-8</b> | <b>01</b> |

**SIDE** - Side

**s** - Side number (s = 0 or 1)

Side of the duplicated NPC circuit pack in a DSPU that is to be diagnosed.

**CFT** - Craft

**vwxy** - Diagnostic test number

The optional craft code field indicates the diagnostic test(s) to be run. If this field is omitted, all tests of this diagnostic will be run. If the NPC is in-service, only in-service diagnostics are run.

Craft codes for the DA type NPC are listed below:

| <i>Test</i>                               | <i>vwxy</i> |
|-------------------------------------------|-------------|
| CI stuck bit test                         | 0001*       |
| CI sanity timer test                      | 0002        |
| CI serial link test                       | 0004*       |
| CC configuration register test            | 0008        |
| CC IRAM stuck bit test                    | 0010        |
| Miscellaneous CC tests                    | 0020*       |
| CC data parity test                       | 0040        |
| Transceiver alarm text                    | 0080        |
| EDCC memory test                          | 0100*       |
| BPV and ZCS tests                         | 0200        |
| CC receive stuff and CC->TX timeslot test | 0400        |
| Slip detector test                        | 0800        |
| Mode dependent system tests               | 1000        |
| Continuity tests                          | 2000        |
| Miscellaneous register tests              | 4000        |
| Transceiver BIST                          | 8000        |

\* In-service tests



Craft codes for the DE or DS type NPC are listed below:

| <i>Test</i>                                   | <i>vwxy</i> |
|-----------------------------------------------|-------------|
| Communication Interface (CI)                  |             |
| stuck bit test                                | 0001        |
| CI sanity timer test                          | 0002        |
| CI serial link test                           | 0004        |
| Channel Controller (CC) config                |             |
| stuck bit test                                | 0008        |
| CC data RAM stuck bit test                    | 0010*       |
| CC data parity test                           | 0020*       |
| Memory test                                   | 0040        |
| Bipolar violation test                        | 0080*       |
| Stuff channel test                            | 0100*       |
| Slip detector test                            | 0200*       |
| Zero code suppression test                    | 0400*       |
| Mode dependent system test                    | 0800*       |
| CC tests                                      | 1000*       |
| Transceiver tests                             | 2000*       |
| HSCC tests Data Link Controller (DLC) circuit |             |
| pack level tests (DS NPC only)                | 4000*       |
| DLC digroup level tests (DS NPC only)         | 8000*       |

Notes:

1. Only tests 1000 and 4000 can be run when the NPC is in service.
2. If both the requested NPC and its mate are out-of-service, any test may be run.

\*If the requested NPC is out-of-service and its mate is in service, only the tests marked with "\*" can be run.

Craft codes for the SP type NPC are listed below:

| <i>Test</i>                            | <i>vwxy</i> |
|----------------------------------------|-------------|
| CI stuck bit test                      | 0001        |
| CI sanity timer test                   | 0002        |
| CI serial link test                    | 0004        |
| CC configuration register test         | 0008        |
| CC IRAM stuck bit test                 | 0010        |
| Miscellaneous CC tests                 | 0020*       |
| DSPP Memory test                       | 0040        |
| Miscellaneous Register test            | 0080        |
| CC to Format Converter Continuity test | 0100        |

\* In-service tests

Craft codes for the MB type NPC are listed below:

| <i>Test</i>                      | <i>vwx</i> y |
|----------------------------------|--------------|
| RAM test                         | 0001*        |
| Interrupt and mask register test | 0002         |
| Data processing error test       | 0004         |
| Clock error test                 | 0008         |
| Serial interface error test      | 0010         |
| Control memory 0 test            | 0020         |
| Control memory 1 test            | 0040         |
| Conference 0 test                | 0080         |
| Conference 1 test                | 0100         |

\* Out-of-service only test

Craft codes for the MJ type NPC are listed below:

| <i>Test</i>                                                                           | <i>vwx</i> y |
|---------------------------------------------------------------------------------------|--------------|
| Exercise the clock circuitry                                                          | 0001         |
| Exercise the Processor Interface Device                                               | 0002         |
| Exercise the input data parity checker<br>and ECD data input                          | 0040         |
| Exercise the ECD, the MJU control<br>memory parity checker and data path<br>to output | 0080         |
| Exercise the MJU control prom                                                         | 0100         |
| Exercise the MJU output block                                                         | 0200         |
| Exercise the control code and<br>overwrite state machine                              | 0400         |
| Exercise the FTU PROM and secondary<br>channel state machine                          | 0800         |
| Verify propagation of alarms to the<br>DSPI circuit pack                              | 2000         |
| Run all out-of-service tests                                                          | 8000         |

**Note:** Test 8000 may only be run on out-of-service circuit packs.

Craft codes for the SR type NPC are listed below:

|                                    |            |
|------------------------------------|------------|
| <i>Test</i>                        | <i>vwx</i> |
| Exercise the clock circuitry       | 0001       |
| Exercise the Processor Interface   |            |
| Device                             | 0002       |
| Exercise the input data interface  | 0040       |
| Exercise the data path internal to |            |
| the SRM pack                       | 0080       |
| Exercise the output block of       |            |
| the SRM pack                       | 0200       |
| Exercise the bus feeding the       |            |
| output block                       | 0800       |
| Run all out-of-service tests       | 8000       |

**Note:** Test 8000 may only be run on out-of-service circuit packs.

**[t]def** - The 3- or 4-digit nonhierarchical MB type NPC number  
([t]def= [s]abc + 1)

**uvmnp** - Hierarchical MB type NPC number

**uvmqr** - Hierarchical MB type NPC number

**qr** - MB type NPC number within module "m" (qr = np +1).

**TYPE** - Type

**mnxyz** - NPC type identifier

**mnxyz** NPC type

**DAxyz** FTU ANSI DS1 NPC type

**DExyz** Facility Terminating Unit NPC

**DSxyz** SLC Carrier Type NPC

**MB100** Digital Multipoint Bridge

**MJ100** Multipoint Junction Unit

**SR100** Subrate Multiplexer Unit

**e** - Number of lines in the message (2 or 3)

**qq** - Unit number (01 through 16)

**UPN** - Unit plug number

**upn** - The value of the UPN.

**XPN** - ECCN plug number

**xpn** - The value of the XPN

- BIT** - Bit number of the data bus
- TD** - Transmit data
- RD** - Receive data
- bb** - Bit number (00 through 15)

The optional line which contains the unit, port, and pin information will only be output if the NPC is in a DSPU and if the continuity check between the NPC and the ECCN is fails. In addition, the completion condition must always be the STF. The valid values and the associated information of the UPN and XPN are shown below. Note that, the numbers shown in the output are exactly the same as the numbers on the backplane.

| Unit Plug No. | ECCN Plug No. | Side | Direction | Associated DSP Packs  |
|---------------|---------------|------|-----------|-----------------------|
| P1            | PqqA*         | 0    | Receive   | 1st and 2nd DSP Packs |
| P2            | PqqE          | 0    | Transmit  | 1st and 2nd DSP Packs |
| P3            | PqqB          | 0    | Receive   | 3rd and 4th DSP Packs |
| P4            | PqqF          | 0    | Transmit  | 3rd and 4th DSP Packs |
| P5            | PqqC          | 0    | Receive   | 5th and 6th DSP Packs |
| P6            | PqqG          | 0    | Transmit  | 5th and 6th DSP Packs |
| P7            | PqqD          | 0    | Receive   | 7th and 8th DSP Packs |
| P8            | PqqH          | 0    | Transmit  | 7th and 8th DSP Packs |
| P10           | PqqA          | 1    | Receive   | 1st and 2nd DSP Packs |
| P11           | PqqE          | 1    | Transmit  | 1st and 2nd DSP Packs |
| P12           | PqqB          | 1    | Receive   | 3rd and 4th DSP Packs |
| P13           | PqqF          | 1    | Transmit  | 3rd and 4th DSP Packs |
| P14           | PqqC          | 1    | Receive   | 5th and 6th DSP Packs |
| P15           | PqqG          | 1    | Transmit  | 5th and 6th DSP Packs |
| P16           | PqqD          | 1    | Receive   | 7th and 2nd DSP Packs |
| P17           | PqqH          | 1    | Transmit  | 7th and 8th DSP Packs |

\* qq is the unit number

The bit number (that is, BIT = TD RD bb) will be shown if the software identifies the bit of the data bus as the failed one.

- ATP** - All tests passed  
All tests passed on the diagnostic of NPC

- CATP** - Conditional all tests passed  
The reason for the conditional completion is indicated by cc.

**STF** - Some tests failed

Some tests failed on the diagnostic of NPC.

**ppqq** - Trouble number for the craft

pp Failing diagnostic number (hexadecimal)

qq Test number (hexadecimal)

Trouble numbers for the DA type NPC are listed below

The TG191 circuit pack can be grown as either a DA or DE type. As a consequence the trouble numbers for the DE type apply in addition to those shown below.

**ppqq** *Cause of failure*

- 0001** TG191 Initialization - Phase 1
- 0002** TG191 Initialization - Phase 2
- 0003** Digroup physical type verification
- 0004** Devices/registers on the FC could not be accessed
- 0005** Devices/registers on the FTMI could not be accessed
- 01--** TG191 initialization test
- 02--** CI stuck bit test
- 03--** CI sanity test
- 04--** CI serial link test
- 05--** CC configuration register stuck bit test
- 06--** CC IRAM stuck bit test
- 07--** CC loss of clock test
- 08--** CC sync error detector test
- 09--** CC sync and loss of clock error detector test
- 0A--** CC configuration register parity checker test
- 0B--** CC IRAM parity checker test
- 0C--** CC transmit data parity error detector test
- 0D--** CC receive data parity error detector test
- 0E--** CC receiver data checker test
- 0F--** TG191 memory test
- 10--** Bipolar violations test
- 11--** Zero code suppression test
- 12--** CC receive stuff register test
- 13--** CC to transceiver stuff test
- 14--** Receive slip detection test
- 15--** Mode dependent system tests
- 16--** Transceiver provisioning test
- 17--** AIS test
- 18--** RFA test
- 19--** CFA test
- 1A--** LMA test
- 1B--** RMA test
- 1C--** CRC test
- 1D--** PRISM stuck bit test
- 1E--** PRISM internal loopback test
- 1F--** PRISM external loopback test
- 20--** Signaling insertion and extraction test
- 21--** Transparent mode test
- 22--** D4 framing mode initialization test
- 23--** CC to format converter continuity test
- 24--** ESF framing mode initialization test
- 25--** PRISM loopback initialization test

- 26-- CC to transceiver continuity test
- 27-- Miscellaneous register test
- 28-- Receive framer alarm test
- 29-- Transceiver receive synchronizer alarm test
- 2A-- Transceiver transmit alarm test
- 2B-- PRISM initialization test
- 2C-- Transceiver BST
- 2D-- Downloadable diagnostic interface test

**Note:** "--" indicates a two-digit hexadecimal value indicating a decision point within the source program. This value can only be interpreted by a programmer with access to the source program.

Trouble numbers for DE and DS type NPCs are listed below.

The TG191 circuit pack can be grown as a DA or DE type. As a consequence the trouble numbers for the DA type apply in addition to those shown below.

**ppqq**    *Cause of failure*

|             |                                                                  |
|-------------|------------------------------------------------------------------|
| <b>0001</b> | DDC initialization failure                                       |
| <b>0002</b> | DDC initialization failure - second attempt                      |
| <b>0003</b> | Unable to read DDC circuit pack type or unknown DDC type         |
| <b>0004</b> | Unable to read/pest DDC via the FC                               |
| <b>0005</b> | Unable to read/pest DDC via the FTMI                             |
| <b>0009</b> | Facility Processor on In-service NPC is insane                   |
| <b>0100</b> | Communication Interface Stuck Bit failure                        |
| <b>0200</b> | Communication Interface Sanity Timer failure                     |
| <b>0300</b> | Communication Interface Serial Link failure                      |
| <b>0400</b> | Channel Controller Configuration Register Stuck Bit failure      |
| <b>0500</b> | Channel Controller Instruction Ram Stuck Bit failure             |
| <b>0600</b> | DDC Memory failure                                               |
| <b>0700</b> | Bipolar Violations failure                                       |
| <b>0800</b> | Stuff Channel Programmability failure                            |
| <b>0900</b> | Slip Detector failure                                            |
| <b>0A00</b> | Zero Code Suppression failure                                    |
| <b>0B00</b> | Mode Dependent System failure                                    |
| <b>0C00</b> | Channel Controller Loss of Clock Exercise failure                |
| <b>0D00</b> | Channel Controller Sync Error Detector failure                   |
| <b>0E00</b> | Channel Controller Clock & Sync Error Detector failure           |
| <b>0F00</b> | Channel Controller Configuration Register Parity Checker failure |
| <b>1000</b> | Channel Controller Configuration Register Parity Checker failure |
| <b>2000</b> | Channel Controller Instruction RAM Parity Checker failure        |
| <b>3000</b> | Channel Controller Receive Data Parity failure                   |
| <b>4000</b> | Channel Controller Transmit Data Parity failure                  |
| <b>5000</b> | Transceiver Memory failure                                       |
| <b>6000</b> | Transceiver Alarm failure                                        |
| <b>A000</b> | SLC96 DLC Stuck Bit failure                                      |
| <b>B000</b> | SLC96 DLC Update Mask failure                                    |
| <b>C000</b> | SLC96 DLC Framer failure                                         |
| <b>D000</b> | SLC96 DLC Alarm failure                                          |
| <b>E000</b> | SLC96 Loss of Data Link failure                                  |
| <b>F000</b> | SLC96 XMT/RCV failure                                            |



Trouble numbers for the SP type NPC are listed below

The TG193 circuit pack can be grown as SP type.

*ppqq Cause of failure*

**0001** TG193 Initialization - Phase 1  
**0002** TG193 Initialization - Phase 2  
**0003** Digroup physical type verification  
**0004** Devices/registers on the FC could not be accessed  
**0005** Devices/registers on the FTMI could not be accessed  
**01--** Initialization Failed  
**02--** CI Stuck Bit test and Clock/ChipId Exercises Failed  
**03--** CI Sanity Timer Test Failed  
**04--** CI Serial Link Address Parity Test Failed  
**05--** CC Stuck Bit Test on Configuration Register Failed  
**06--** CC IRAM Short Test Failed  
**07--** CC Exercise Loss of Clock Error Detector  
**08--** CC Exercise Sync Error Detector Failed  
**09--** CC Exercise Sync and Loss of Clock Error Detector Failed  
**0A--** Exercise CC Configuration Register Parity Checker Failed  
**0B--** CC Exercise Instruction RAM Parity Checker Failed  
**0C--** CC Exercise Transmit Data Parity Error Detector Failed  
**0D--** CC Exercise Receive Data Parity Error Detector Failed  
**0E--** CPU/CP Shared RAM Test Failed  
**0F--** CC source data to FC Test Failed  
**10--** Miscellaneous Register Test Failed  
**11--** CPU to CP Downloadable DGN Interface Failed  
**C0--** DL CC Exercise Configuration Register Parity Checker Failed  
**C1--** DL CC Stuck Bit Test on Configuration Register Failed  
**C2--** DL CC IRAM Long Test Failed  
**C3--** DL CC Exercise Instruction RAM Parity Checker Failed  
**C4--** DL CC IRAM Short Test Failed  
**C5--** DL CC Exercise Loss of Clock Error Detector Failed  
**C6--** DL CC Exercise Receive Data Parity Error Detector Failed  
**C7--** DL CC Exercise Sync Error Detector Failed  
**C8--** DL CC Exercise Sync and Loss of Clock Error Detectors Failed  
**C9--** DL CC Exercise Transmit Data Parity Error Detector Failed  
**CA--** DL Pack Initialization Failed  
**CB--** DL RAM/ROM Test Failed  
**CD--** DL Miscellaneous Register Test Failed  
**CE--** DL ROM Test Failed  
**CF--** DL Real Time Clock Timer Test Failed  
**D0--** DL DSP Chip Test 0 Failed  
**D1--** DL DSP Chip Test 1 Failed  
**D2--** DL DSP Chip Test 2 Failed  
**D3--** DL DSP Chip Test 3 Failed  
**D4--** DL DSP Chip Test 4 Failed  
**D5--** DL DSP Chip Test 5 Failed  
**D6--** DL DSP Chip Test 6 Failed

**D7--** DL DSP Chip Test 7 Failed

**Note 1:** "--" indicates a two-digit hexadecimal value indicating a decision point within the source program. This value can only be interpreted by a programmer with access to the source program.

**Note 2:** "DL" means DownLoadable diagnostics running on the TG193.

Trouble numbers for MB, SR, and MJ type NPCs are listed below:

**ppqq** *Cause of failure*

- 0F00** Error Summary Failure
- 0F01** Hardware Fail on ECCI pack
- 0F02** Hardware Fail on ETSI pack
- 0F03** RCV Network Data Bus Failure  
badbit, baddirection & badport
- 0F04** RCV Network Data Bus Failure  
baddirection & badport
- 0F05** XMIT Network Data Bus Failure  
badbit, baddirection & badport
- 0F06** XMIT Network Data Bus Failure  
baddirection & badport
- 0F07** Pack hardware failure
- 0F0A** Parent pack failed, for DSP packs \*
- 0F0C** Network Parity or Frame Sync. or  
Network Data Bus error

Trouble numbers for only the MB type NPCs are listed below:

**ppqq** *Cause of failure*

- 0F08** Pack Failed to Initialize for CT
- 0F0B** DMB clock problem during initialization

Trouble numbers for the MJ type NPCs are listed below  
(xx indicates ignore the value):

**ppqq**    *Cause of failure*

- 01xx**    Failure occurred while exercising the clock circuitry
- 02xx**    Failure occurred while exercising the Processor Interface Device
- 03xx**    Failure occurred while exercising the RAM test
- 05xx**    Multipoint Junction Unit (MJU) circuit pack initialization failed
- 06xx**    Failure occurred while exercising the control RAM parity checker test
- 07xx**    Failure occurred while exercising the input data parity checker and ECD data input
- 08xx**    Failure occurred while exercising the ECD, the MJU control memory parity checker and data path to output
- 09xx**    Failure occurred while exercising the MJU control PROM
- 0Axx**    Failure occurred while exercising the MJU output block
- 0Bxx**    Failure occurred while exercising the control code and over-write state machine
- 0Cxx**    Failure occurred while exercising the Facility Terminating Unit(FTU) PROM and secondary channel state machine
- 0Dxx**    Failure occurred while exercising the CCM control memory parity checker and data path to output
- 0Exx**    Unable to verify propagation of alarms to Digital Signal Processing Interface (DSPI) interrupt register

Trouble numbers for SR type NPCs are listed below  
(xx indicates ignore the value):

**ppqq** *Cause of failure*

- 01xx** Failure occurred while exercising the clock circuitry
- 02xx** Failure occurred while exercising the Processor Interface Device (PID)
- 03xx** Failure occurred while exercising the RAM test
- 05xx** Failure occurred while running circuit pack initialization
- 06xx** Failure occurred while exercising the control RAM parity checker test
- 07xx** Failure occurred while exercising the input data interface
- 08xx** Failure occurred while exercising the data path internal to the subrate multiplexer
- 09xx** Failure occurred while exercising the multiplexer state machine
- 0Axx** Failure occurred while exercising the output block of the SRM pack
- 0Bxx** Failure occurred while exercising the internal data RAMS
- 0Cxx** Failure occurred while exercising the bus feeding the output block
- 0Dxx** Unable to verify propagation of alarms to DSPI interrupt register

**d5-d0** - Hexadecimal raw data bytes relating to the failed diagnostic detected.

For DMB, MJU, and SRM circuit packs, the values of d5-d0 are the same.

*Data*

| <i>Byte</i> | <i>Value</i> |
|-------------|--------------|
| <b>d5</b>   | Unused       |
| <b>d4</b>   | Unused       |
| <b>d3</b>   | Unused       |
| <b>d2</b>   | Unused       |
| <b>d1</b>   | Unused       |
| <b>d0</b>   | Unused       |

**cc** - Hexadecimal condition code

**cc Explanation**

|    |                                                                             |
|----|-----------------------------------------------------------------------------|
| 03 | Subject entity is in service                                                |
| 10 | Unit is not equipped                                                        |
| 11 | UC is out of service                                                        |
| 13 | FTMI is not equipped                                                        |
| 14 | FTMI is out of service                                                      |
| 15 | NPC is unequipped                                                           |
| 17 | SYNC is out of service                                                      |
| 36 | DSPI not equipped                                                           |
| 37 | DSPI out-of-service                                                         |
| 38 | FC not equipped                                                             |
| 40 | FC out of service                                                           |
| 43 | (NPC) Hardware mismatch                                                     |
| 0B | Invalid CEPT NPC                                                            |
| 55 | Invalid CFT code                                                            |
| 56 | Unrunnable CFT code                                                         |
| FD | NPC range crosses unit boundary                                             |
| C2 | ETSI cannot be initialized when ECCN side is<br>OOS or inservice but pested |
| C3 | XMIT continuity test won't be run: CFT code<br>specified                    |
| C4 | XMIT continuity test won't be run: no XMIT<br>timeslots available           |
| C7 | RCV continuity test won't be run: no DMB<br>timeslots available             |
| C8 | RCV continuity test won't be run: at least<br>one timeslot in use           |
| CB | Skip error summary since adjacent pack not<br>in service or pested          |
| CE | CCI is out of service                                                       |
| E0 | ETSI not equipped, not in service, or failed                                |

## **DGN,PMEM,SMEM,CFT,X,EXCT,DBASE,VERIFY**

### **Explanation Of Command**

This command requests diagnostics to be run on the specified non-volatile memory card; either the primary memory card (PMEM) or the secondary memory card (SMEM). The diagnostics test the operation of the underlying hardware of the specified memory card. By default, the entire set of in-service or out-of-service diagnostics are run except for the database and executable tests. If the craft option is used, the value supplied for *vwxy* will determine the diagnostics run and can include database and executable tests.

Using the optional keywords EXCT or DBASE, allows the user to test the system's ability to correctly read either the executable program or the database stored on a memory card. When a single or multiple diagnostic test is specified via the CFT parameter, only those tests specified by the CFT parameter are run, all other possible tests are not run. The **DGN IN PROGRESS** message is output every 20 seconds while the diagnostics are being executed until the command response or the autonomous report is output. The **DGN EQPT IN\_PROGRESS** message is output every 20 seconds while the diagnostics are being executed until the command response or the autonomous report is output.

### **Command**

[I.41051]

**DGN:[FRM xy,SEQ ww]:{PMEM|SMEM}[,{CFT X'vwxy|EXCT|DBASE}][,VERIFY]!**

### **Completion Message**

[O.41051]

**M hh:mm:ss xy,ww n[vv] DGN {PMEM|SMEM}[ {EXCT|DBASE}] [VERIFY] ATP COMPL**

[O.41052]

M hh:mm:ss xy,ww n[vv] DGN {PMEM|SMEM}[ {EXCT|DBASE}][VERIFY] \  
STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL

[O.41053]

M hh:mm:ss xy,ww n[vv] DGN {PMEM|SMEM}[ {EXCT|DBASE}] [VERIFY] CATP COMPL

### **Denial Message**

---

[O.41051.01]

M hh:mm:ss xy,ww n[vv] DGN {PMEM|SMEM}[ {EXCT|DBASE}][VERIFY] COND cc DNY

### **Autonomous Message**

---

[O.41051]

I hh:mm:ss xy,ww DGN {PMEM|SMEM}[ {EXCT|DBASE}] ATP COMPL

[O.41052]

I hh:mm:ss xy,ww DGN {PMEM|SMEM}[ {EXCT|DBASE}] STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL

[O.41053]

I hh:mm:ss xy,ww DGN {PMEM|SMEM}[ {EXCT|DBASE}] CATP COMPL

[O.41051.01]

I hh:mm:ss xy,ww DGN {PMEM|SMEM}[ EXCT|DBASE}] COND cc DNY

### **Explanation Of Parameters**

---

**PMEM** - Primary memory card.

**SMEM** - Secondary memory card.

**CFT** - Craft

**X** - Hexidecimal

**vwxy** - Diagnostic test number

The optional craft code field specifies which test is to be run on the PMEM/SMEM. The card status test is always performed. The remainder of the PMEM/SMEM diagnostics will not be run.

**vwyx** *Test*

**0001** Card Status Test

**0002** Wear Level Test

**0004\*** Card Diagnostic Test

0010\*+ Validate Data Base Test

0020\*% Validate Boot Block Test

0040\*% Validate Executable Header Test

0080\*% Validate Executable Test

**0100\*** Read/Write DGN Volume Test

**0020\*** Mount/Unmount All Volumes Test

\* out-of-service tests (not performed if PMEM/SMEM card is in MEMDBREADY state).

+ Database tests (performed when DBASE keyword is specified).

% Executable tests (performed when EXCT keyword is specified).

**DBASE** - Database

This keyword is used to test the ability to correctly read the data base files stored on the PMEM/SMEM. This diagnostic will be run only if the DBASE keyword is entered or if the specific test CFT field is specified.

**EXCT** - Executables

This keyword is used to test the ability to correctly read the executables stored on the PMEM/SMEM. This diagnostic will be run only if the EXCT keyword is entered or if the specific test CFT field is specified.

**ATP** - All tests passed

**CATP** - Conditional all tests passed

**STF** - Some tests failed

**ppqq** - Trouble number for the craft

**pp** - Failing Diagnostic Number (hexadecimal)

**qq** - Test number (hexadecimal)



| <b>ppqq</b>       | <i>Explanation</i>                                                                               |
|-------------------|--------------------------------------------------------------------------------------------------|
| <b>01xx</b>       | PMEM/SMEM Tests Failed                                                                           |
| <b>0103</b>       | Wear Level Failed                                                                                |
| <b>0104</b>       | Card Diagnostic Failed                                                                           |
| <b>0108</b>       | Validate Database Failed<br>(both database volumes marked bad)                                   |
| <b>0109</b>       | Validata Database Failed<br>(cannot mount database volume)                                       |
| <b>0110</b>       | Validate Database Failed<br>(MP & CI database not present)                                       |
| <b>0111</b>       | Validate Database Failed<br>(database present but failed)                                        |
| <b>0114</b>       | Validate Boot Block Failed                                                                       |
| <b>0116</b>       | Validate Executable Header Failed                                                                |
| <b>0118</b>       | Validate Executable Failed<br>(cannot mount executable volume)                                   |
| <b>0119</b>       | Validate Executable Failed<br>(validate executables failed)                                      |
| <b>0121</b>       | Read/Write DGN Volume Failed<br>(read/write dgn volume failed)                                   |
| <b>0121</b>       | Read/Write DGN Volume Failed<br>(cannot mount dgn volume)                                        |
| <b>0121</b>       | Read/Write DGN Volume Failed<br>(failed to close or remove file or failed to unmount dng volume) |
| <b>0123</b>       | Mount/Unmount All Volumes Failed                                                                 |
| <b>0124, 0126</b> | Keyword=VERIFY Test Failed                                                                       |

**d5-d0** - Hexadecimal raw data bytes relating to the failed diagnostic detected.

These data bytes can only be supplied by an AT&T designer.

An in-progress message (O.41004) is output every 20 seconds while the device is being diagnosed until the command response or autonomous report is output.

VERIFY - Verify

This option causes block checking to be performed.

**cc** - Hexadecimal condition code

**cc**    *Explanation*

- 03**    Subject entity is in service
- 04**    Subject entity is out of service
- 55**    Invalid CFT code
- 56**    Unrunnable CFT code
- 84**    Problem occurred while accessing SMEM or unformatted SMEM
- 85**    Problem occurred while accessing PMEM

## **DGN,SYNC**

### **DIAGNOSE SYNCHRONIZER**

#### **Explanation Of Command**

This message runs diagnostics on the digital phase-locked loop (DPLL) and the time base (TB) of the specified synchronizer side.

#### **Command**

[I.41101]

**DGN:FRM xy,SEQ ww:SYNC a!**

#### **Completion Message**

[O.41101]

**M hh:mm:ss xy,ww n[vv] DGN SYNC a ATP COMPL**

[O.41101]

**M hh:mm:ss xy,ww n[vv] DGN SYNC a CATP cc COMPL**

[O.41102]

**M hh:mm:ss xy,ww n[vv] DGN SYNC a STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL**

#### **Denial Message**

[O.41101.01]

**M hh:mm:ss xy,ww n[vv] DGN SYNC a COND cc DNY**

### **Autonomous Message**

---

[O.41101]

**I hh:mm:ss xy,ww DGN SYNC a ATP COMPL**

[O.41101]

**I hh:mm:ss xy,ww DGN SYNC a CATP cc COMPL**

[O.41102]

**I hh:mm:ss xy,ww DGN SYNC a STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL**

[O.41101.01]

**I hh:mm:ss xy,ww DGN SYNC a COND cc DNY**

### **Explanation Of Parameters**

---

**SYNC** - Synchronizer

**a** - Synchronizer side (0 or 1)

**ATP** - All tests passed

**CATP** - Conditional all tests passed

**cc** - Hexadecimal completion code

**STF** - Some tests failed

**ppqq** - Trouble number for the craft

*ppqq Explanation*

0100 Sync diagnostic command returned error

0200 Hardware status query showed error

**d5-d0** - Hexadecimal raw data bytes relating to the failed diagnostic detected.

These data bytes can only be interpreted by an AT&T designer.

**cc** - Hexadecimal condition code

**cc Explanation**

**02 Subject entity is not equipped**  
**8F Can't lock or unlock ram database**  
**AB Bad sync mode**

## **DGN,SYNC,TLI,CRO**

### **DIAGNOSE SYNCHRONIZER**

#### **Explanation Of Command**

This message requests diagnostics to be run on the synchronizer's timing link interface 3 when provisioned as a clock reference oscillator. The command will be denied if a clock reference oscillator is not provisioned.

#### **Command**

[I.41111]

DGN:FRM xy,SEQ ww:SYNC,TLI 3,CRO!

#### **Completion Message**

[O.41111]

M hh:mm:ss xy,ww n[vv] DGN SYNC TLI 3 CRO ATP COMPL

[O.41111]

M hh:mm:ss xy,ww n[vv] DGN SYNC TLI 3 CRO CATP cc COMPL

[O.41112]

M hh:mm:ss xy,ww n[vv] DGN SYNC TLI 3 CRO STF \  
ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL

#### **Denial Message**

[O.41111.01]

M hh:mm:ss xy,ww n[vv] DGN SYNC TLI 3 CRO COND cc DNY

### **Autonomous Message**

---

[O.41111]

**I hh:mm:ss xy,ww DGN SYNC TLI 3 CRO ATP COMPL**

[O.41111]

**I hh:mm:ss xy,ww DGN SYNC TLI 3 CRO CATP cc COMPL**

[O.41112]

**I hh:mm:ss xy,ww DGN SYNC TLI 3 CRO STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL**

**[O.41111.01]**

**I hh:mm:ss xy,ww DGN SYNC TLI 3 CRO COND cc DNY**

### **Explanation Of Parameters**

---

**SYNC** - Synchronizer

**TLI** - Timing link interface

**3** - TLI number 3

**CRO** - Clock reference oscillator

**ATP** - All tests pass

**CATP** - Conditional All Tests Pass

**STF** - Some tests failed

**ppqq** - Trouble number for the craft

*ppqq Explanation*

0300 TLI status query showed error

0400 TLI status query showed error

0500 CRO status query showed error

0600 CRO frequency offset flag

**d5,**  
**d4,**  
...,  
**d0** - Hexadecimal data bytes.

| Data<br>Byte | Value  |
|--------------|--------|
| d5           | Unused |
| d4           | Unused |
| d3           | Unused |
| d2           | Unused |
| d1           | Unused |
| d0           | Unused |

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>Explanation</b>                       |
|-----------|------------------------------------------|
| <b>02</b> | <b>Subject entity is not equipped</b>    |
| <b>8F</b> | <b>Can't lock or unlock ram database</b> |
| <b>AB</b> | <b>Bad sync mode</b>                     |



## **DGN,SYNC,TLI,SSP**

### **DIAGNOSE SYNCHRONIZER TIMING LINK INTERFACE**

#### **Explanation Of Command**

This command requests the diagnosis of a timing link interface on the synchronizer side. If the optional synchronizer sync port parameter is specified, only that single SSP is diagnosed. For autonomous diagnostics of a TD-type TLI circuit pack, the SSP field does not appear in the output message. Both arguments appear for autonomous removal of a timing extractor type TLI.

#### **Command**

[I.41121]

**DGN:FRM xy,SEQ ww:SYNC a,TLI m[,SSP b]!**

#### **Completion Message**

[O.41121]

**M hh:mm:ss xy,ww n[vv] DGN SYNC a TLI m[ SSP b[ 1]] ATP \**  
**COMPL**

[O.41122]

**M hh:mm:ss xy,ww n[vv] DGN SYNC a TLI m[ SSP b[ 1]] STF ppqq \**  
**2 LN MSG:**  
**<d5> <d4> <d3> <d2> <d1> <d0> COMPL**

### **Denial Message**

---

[O.41121.01]

M hh:mm:ss xy,ww n[vv] DGN SYNC a TLI m[ SSP b[ 1]] \  
COND cc DNY

### **Autonomous Message**

---

[O.41121]

I hh:mm:ss xy,ww DGN SYNC a TLI m[ SSP b[ 1]] ATP COMPL

[O.41122]

I hh:mm:ss xy,ww DGN SYNC a TLI m[ SSP b[ 1]] STF ppqq \  
2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL

[O.41121.01]

I hh:mm:ss xy,ww DGN SYNC a TLI m[ SSP b[ 1]] COND cc DNY

### **Explanation Of Parameters**

---

**SYNC** - Synchronizer

**a** - Synchronizer side number (0 or 1)

**TLI** - Timing link interface

**m** - Timing link interface number (1 through 4)

**SSP** - Synchronizer synchronization port

**b** - Synchronizer Synchronization Port number (0 or 1)

**Note 1:** SSP must be specified if the TLI is a timing extractor type NPC.

**Note 2:** If the SSP parameter is supplied, only that SSP is diagnosed. Otherwise both SSPs are diagnosed.

**ATP** - All tests passed

**STF** - Some tests failed

**ppqq** - Trouble number for the craft

Valid values are listed below:

| <i>ppqq</i> | <i>Explanation</i> |
|-------------|--------------------|
|-------------|--------------------|

|      |                               |
|------|-------------------------------|
| 0300 | TLI status query showed error |
|------|-------------------------------|

|      |                               |
|------|-------------------------------|
| 0400 | TLI status query showed error |
|------|-------------------------------|

**d5 - d0** - Hexadecimal raw data bytes relating to the failed diagnostic detected.

These data bytes can only be interpreted by an AT&T designer.

**cc** - Hexadecimal condition code

| <b>cc</b> | <i>Explanation</i> |
|-----------|--------------------|
|-----------|--------------------|

|           |                                |
|-----------|--------------------------------|
| <b>02</b> | Subject entity is not equipped |
|-----------|--------------------------------|

|           |                |
|-----------|----------------|
| <b>33</b> | Wrong TLI type |
|-----------|----------------|

|           |                                   |
|-----------|-----------------------------------|
| <b>8F</b> | Can't lock or unlock ram database |
|-----------|-----------------------------------|

|           |               |
|-----------|---------------|
| <b>AB</b> | Bad sync mode |
|-----------|---------------|

## **DGN,TSI,CFT,X**

### **DIAGNOSE TIME SLOT INTERCHANGE**

#### **Explanation Of Command**

This command requests diagnostics to be run on a specific time slot interchange.

The optional **CFT** field indicates which test(s) of the diagnostic is to be run under craft control. If this field is omitted, all tests of this diagnostic will be run.

If there are no mapped TSI slots, DACS II will respond with some tests failed (STF).

#### **Command**

[I.41221]

**DGN:FRM xy,SEQ ww:TSI sft[,CFT X'vwxy]!**

#### **Completion Message**

[O.41221]

**M hh:mm:ss xy,ww n[vv] DGN TSI sft ATP COMPL**

[O.41222]

**M hh:mm:ss xy,ww n[vv] DGN TSI sft CATP cc COMPL**

[O.41223]

**M hh:mm:ss xy,ww n[vv] DGN TSI sft STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL**

### **Denial Message**

---

[O.41221.01]

M hh:mm:ss xy,ww n[vv] DGN TSI sft COND cc DNY

### **Autonomous Message**

---

[O.41221]

I hh:mm:ss xy,ww DGN TSI sft ATP COMPL

[O.41222]

I hh:mm:ss xy,ww DGN TSI sft CATP cc COMPL

[O.41223]

M hh:mm:ss xy,ww DGN TSI sft STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL

[O.41221.01]

I hh:mm:ss xy,ww DGN TSI sft COND cc DNY

### **Explanation Of Parameters**

---

- TSI** - Time slot interchange
- s** - Cross-connect network side number (0 or 1)
- f** - FROM unit number (1 through 6)
- t** - TO unit number (1 through 6)

**CFT** - Craft

**vwxy** - Diagnostic test number

| <i>Test</i>                     | <b>vwxy</b> |
|---------------------------------|-------------|
| Output data checker exercise    | 0001        |
| Memory test                     | 0002        |
| Memory diagnostic               | 0004        |
| Address bus parity test         | 0008        |
| Loss of clock exercise 2        | 0010        |
| Loss of clock exercise 1        | 0020        |
| Memory diagnostic exercise      | 0040        |
| Control RAM checker exercise    | 0080        |
| Communication test              | 0100        |
| Memory and Alarms diagnostic(s) | 0200        |

**Note:**

1. If the CFT field is omitted, all tests of this diagnostic will be run.
2. Tests 0200, 0040, 0020, 0010, 0004, and 0002 can only be run when the TSI is out-of-service. All other tests can be run when the TSI is in service.

**ATP** - All tests passed

**CATP** - Conditional all tests passed

**STF** - Some tests failed

**ppqq** - Trouble number for the craft

pp - Failing diagnostic number in hexadecimal form

qq - Test number in hexadecimal form.

| <b>ppqq</b> | <i>Explanation</i>                                                                                               |
|-------------|------------------------------------------------------------------------------------------------------------------|
| 011N        | Address Bus Parity test: error bit not set.<br>N is the circuit number where failure occurred: [0,f]             |
| 012N        | Address Bus Parity test: error returns after clear.<br>N is the circuit number where the failure occurred: [0,f] |
| 013N        | Status bit BUSERR not set                                                                                        |
| 014N        | Ccni error summary bit not set (involves ccni register, could be a ccni problem)                                 |
| 01B0        | Ccni error summary not clear (involves ccni register, could be a ccni problem)                                   |
| 01F0        | Software error                                                                                                   |
| 031N        | LOTDEX1 test: error bit not set                                                                                  |
| 032N        | LOTDEX1 test: error returns after clear.<br>N is the circuit number where the failure occurred: [0,f]            |
| 051N        | CREX test: error bit not set                                                                                     |
| 0520        | Error returns after clear                                                                                        |
| 053N        | Status bit not set                                                                                               |
| 0540        | Summary register on CCNI not set (NOTE this could be a CCNI problem)                                             |
| 05B0        | Summary register on CCNI not cleared (NOTE this could be a CCNI problem)                                         |
| 05F0        | Software error                                                                                                   |
| 081N        | Error bit not set                                                                                                |
| 0820        | Error returns after clear                                                                                        |
| 084N        | Overall summary bit not set                                                                                      |
| 0850        | MEMDGN/DGNEX test: Busy bit not set                                                                              |
| 08F0        | Software error                                                                                                   |
| 0980        | Communication test: Circuit pack id is wrong                                                                     |
| 099N        | Circuit id is wrong                                                                                              |
| 09F0        | Software error                                                                                                   |
| 033N        | Status bit not set                                                                                               |
| 0320        | Error returns after clear                                                                                        |
| 032N        | LOTDEX1 test: error returns after clear. N is the circuit number where the failure occurred: [0,f]               |
| 03F0        | Software error                                                                                                   |
| 021N        | LOTDEX2 test: error bit not set                                                                                  |
| 023N        | Status bit not set                                                                                               |
| 0220        | Error returns after clear                                                                                        |
| 02F0        | Software error                                                                                                   |
| 072N        | MEMDGN test: memory diagnostic failed                                                                            |
| 07F0        | Software error                                                                                                   |

The following is the needed information:  
Per LMC 6/2/94

| <b>ppqq</b> | <i>Explanation</i>                                |
|-------------|---------------------------------------------------|
| 064N        | Memory test: overall error summary not set        |
| 066N        | Value stored incorrectly in memory                |
| 06F0        | Software error                                    |
| 047N        | ODEX test: exercise bit not set                   |
| 041N        | Error bit not set                                 |
| 043N        | Status bit not set                                |
| 0420        | Software error                                    |
| 0A2N        | RAM test: status register bit was set on ram test |
| 0A6N        | Value stored incorrectly in memory                |
| 0ABN        | Error summary bit set during test                 |
| 0AFN        | Software error                                    |
| 0B00        | Could not initialize pack                         |

**d5 - d0** - Raw data relating to the failed diagnostic detected.

Four hex digits each. Each data field contains sixteen bits. The significance of each data field and its individual bits is as follows:

**d5** - CCNI Error Source Register 5

| Bit  | Explanation                               |
|------|-------------------------------------------|
| 15-8 | Don't care                                |
| 7    | Error on autonomous switch enable circuit |
| 6    | Error on BSR parity                       |
| 5    | Parity error on high byte of data         |
| 4    | Parity error on low byte of data          |
| 3    | Address bus parity error                  |
| 2    | Synchronizer error                        |
| 1    | Error on CCB 6                            |
| 0    | Error on CCB 5                            |



**d4** - CCNI Error Source Register 4.

Each bit indicates an error on a pack connected to this CCNI

| Bit | Explanation            |
|-----|------------------------|
| 15  | Error on CCB 4         |
| 14  | Error on CCB 3         |
| 13  | Error on CCB 2         |
| 12  | Error on CCB 1         |
| 11  | Error on FTM 4, Unit 6 |
| 10  | Error on FTM 3, Unit 6 |
| 09  | Error on FTM 2, Unit 6 |
| 08  | Error on FTM 1, Unit 6 |
| 07  | Error on FTM 4, Unit 5 |
| 06  | Error on FTM 3, Unit 5 |
| 05  | Error on FTM 2, Unit 5 |
| 04  | Error on FTM 1, Unit 5 |
| 03  | Error on FTM 4, Unit 4 |
| 02  | Error on FTM 3, Unit 4 |
| 01  | Error on FTM 2, Unit 4 |
| 00  | Error on FTM 1, Unit 4 |

**d3** - CCNI Error Source Register 3.

Each bit indicates an error on a pack connected to this CCNI.

| Bit | Explanation            |
|-----|------------------------|
| 15  | Error on FTM 4, Unit 3 |
| 14  | Error on FTM 3, Unit 3 |
| 13  | Error on FTM 2, Unit 3 |
| 12  | Error on FTM 1, Unit 3 |
| 11  | Error on FTM 4, Unit 2 |
| 10  | Error on FTM 3, Unit 2 |
| 09  | Error on FTM 2, Unit 2 |
| 08  | Error on FTM 1, Unit 2 |
| 07  | Error on FTM 4, Unit 1 |
| 06  | Error on FTM 3, Unit 1 |
| 05  | Error on FTM 2, Unit 1 |
| 04  | Error on FTM 1, Unit 1 |
| 03  | Error on TSI 66        |
| 02  | Error on TSI 56        |
| 01  | Error on TSI 46        |
| 00  | Error on TSI 36        |

**d2** - CCNI Error Source Register 2.

Each bit indicates an error on a pack connected to this CCNI:

| Bit | Explanation     |
|-----|-----------------|
| 15  | Error on TSI 26 |
| 14  | Error on TSI 16 |
| 13  | Error on TSI 65 |
| 12  | Error on TSI 55 |
| 11  | Error on TSI 45 |
| 10  | Error on TSI 35 |
| 09  | Error on TSI 25 |
| 08  | Error on TSI 15 |
| 07  | Error on TSI 64 |
| 06  | Error on TSI 54 |
| 05  | Error on TSI 44 |
| 04  | Error on TSI 34 |
| 03  | Error on TSI 24 |
| 02  | Error on TSI 14 |
| 01  | Error on TSI 63 |
| 00  | Error on TSI 53 |

**d1** - CCNI Error Source Register 1.

Each bit indicates an error on a pack connected to this CCNI:

| Bit | Explanation     |
|-----|-----------------|
| 15  | Error on TSI 43 |
| 14  | Error on TSI 33 |
| 13  | Error on TSI 23 |
| 12  | Error on TSI 13 |
| 11  | Error on TSI 62 |
| 10  | Error on TSI 52 |
| 09  | Error on TSI 42 |
| 08  | Error on TSI 32 |
| 07  | Error on TSI 22 |
| 06  | Error on TSI 12 |
| 05  | Error on TSI 61 |
| 04  | Error on TSI 51 |
| 03  | Error on TSI 41 |
| 02  | Error on TSI 31 |
| 01  | Error on TSI 21 |
| 00  | Error on TSI 11 |

**d0** - Contents of Bus Status Register on CCNI

| Bit   | Explanation                                                                                                                                                 |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15-04 | Not used.                                                                                                                                                   |
| 03    | Indicates what side of the network is active.<br>This bit is read by the unit controllers.                                                                  |
| 02    | Indicates what side of the network is active.<br>This bit is written by the MP.                                                                             |
| 01    | ASE (Autonomous Switch Enable) bit<br>1 = ASE circuit controls the value of Bit 02<br>0 = MP controls the value of Bit 02<br>This bit is read by the units. |
| 00    | Odd parity over bits 02-00 of this register.                                                                                                                |

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>Explanation</b>             |
|-----------|--------------------------------|
| 02        | Subject entity is not equipped |
| 03        | Subject entity is in service   |
| 1B        | CCN side s is in service       |
| 3D        | No mapped slots on a tsi       |
| 45        | A DMB on the UNIT is OOS       |
| 50        | Can't run test on active side  |
| 55        | Invalid CFT code               |
| 56        | Unrunnable CFT code            |

---

## DGN,TSIS,CCN,ALL

---

### DIAGNOSE TIME SLOT INTERCHANGES

#### Explanation Of Command

---

This command requests diagnostics to be run on all time slot interchangers (TSIs) on cross-connect side **s**.

#### Command

---

[I.41241]

DGN:FRM xy,SEQ ww:TSIS,CCN s,ALL!

#### Completion Message

---

[O.41241]

pahh:mm:ss xy,ww n[vv] DGN TSI ALL 5 LN MSG:

TOTAL TSIS tt

sft r nn sft r nn sft r nn sft r nn sft r nn \

sft r nn

sft r nn sft r nn sft r nn sft r nn sft r nn \

sft r nn

sft r nn sft r nn sft r nn sft r nn sft r nn \

sft r nn EOP

pahh:mm:ss xy,ww n[vv] DGN TSI ALL 5 LN MSG:

TOTAL TSIS tt

sft r nn sft r nn sft r nn sft r nn sft r nn \

sft r nn

sft r nn sft r nn sft r nn sft r nn sft r nn \

sft r nn

sft r nn sft r nn sft r nn sft r nn sft r nn \

sft r nn COND cc COMPL

### **Denial Message**

---

[O.41241.01]

**pahh:mm:ss xy,ww n[vv] DGN TSI ALL COND cc DNY**

For any TSI that fails, the following message is also output:

[O.41223]

**pahh:mm:ss xy,ww n[vv] DGN TSI sft STF ppqq d5 d4 d3 d2 \  
d1 d0 COMPL**

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

|             |                                            |
|-------------|--------------------------------------------|
| <b>TSIS</b> | - Time slot interchangers                  |
| <b>CCN</b>  | - Cross-connect network                    |
| <b>s</b>    | - CCN side number                          |
| <b>ALL</b>  | - All                                      |
| <b>pa</b>   | - Priority of action.                      |
|             | <i>pa Explanation</i>                      |
|             | M^ Manual response                         |
|             | I^ Information from an autonomous activity |
|             | (A "^" represents a blank space)           |
| <b>s</b>    | - See s under CCN above                    |
| <b>f</b>    | - FROM Unit (1 through 6)                  |
| <b>t</b>    | - TO Unit (1 through 6)                    |

**r** - Diagnostic status for individual TSI:

| <i>r</i> | <i>Explanation</i>                        |
|----------|-------------------------------------------|
| A        | ATP COMPL (All Tests Passed)              |
| C        | CATP COMPL (Conditional All Tests Passed) |
| S        | STF COMPL (Some Tests Failed)             |
| D        | DNY (Deny)                                |
| -        | unequipped TSIs                           |

**nn** - Condition code for each TSI addressed (-- for unequipped TSIs)

To interpret values of nn use the cc table below.

**TOT** - Total

**tt** - Total number of TSIs diagnosed

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>Explanation</b>             |
|-----------|--------------------------------|
| 02        | Subject entity is not equipped |
| 03        | Subject entity is in service   |
| 1B        | CCN side s is in service       |
| 3D        | No mapped slots on a tsi       |
| 45        | A DMB on the UNIT is OOS       |
| 50        | Can't run test on active side  |
| 55        | Invalid CFT code               |
| 56        | Unrunnable CFT code            |

---

## **DGN,TSIS,CCN,UNIT,CONN**

---

### **DIAGNOSE TIME SLOT INTERCHANGES**

#### **Explanation Of Command**

---

This command requests diagnostics to be run on all time slot interchangers (TSIs) between **UNIT-q** and the specified units. If the optional connectivity field is omitted, then all TSIs connected to **UNIT-q** will be diagnosed.

#### **Command**

---

[I.41232]

```
DGN:FRM xy,SEQ ww:TSIS,CCN s,UNIT q,\
[,CONN(a[,b[,c[,d[,e[,f]]]]]])]!
```

#### **Completion Message**

---

[O.41232]

```
M hh:mm:ss xy,ww n[vv] DGN TSIS CCN s UNIT q[ CONN \
[ a[ b[ c[ d[ e[ f]]]]]]] e LN MSG:
sft r nn    sft r nn    sft r nn    sft r nn    sft r nn    \
sft r nn
.
.
.
sft r nn    sft r nn    sft r nn    sft r nn    sft r nn    \
sft r nn    COND cc COMPL
```

**Note:** There are up to six sets of data on each line and up to six data lines.

### Denial Message

[O.41232.01]

M hh:mm:ss xy,ww n[vv] DGN TSIS CCN s UNIT q\  
[ CONN [ a[ b[ c[ d[ e[ f]]]]]]] COND cc DNY

### Autonomous Message

[O.41232]

I hh:mm:ss xy,ww n[vv] DGN TSIS CCN s UNIT q[ CONN \  
[ a[ b[ c[ d[ e[ f]]]]]]] e LN MSG:  
sft r nn sft r nn sft r nn sft r nn sft r nn \  
sft r nn  
.  
.  
.  
sft r nn sft r nn sft r nn sft r nn sft r nn \  
sft r nn COND cc COMPL

**Note:** There are up to six sets of data on each line and up to six data lines.

[O.41232.01]

M hh:mm:ss xy,ww n[vv] DGN TSIS CCN s UNIT q[ CONN \  
[ a[ b[ c[ d[ e[ f]]]]]]] COND cc DNY

### Explanation Of Parameters

**TSIS** - Time slot interchangers

**CCN** - Cross-connect network

**s** - Cross-Connect Network side number (0 or 1)

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**CONN** - Unit connection

**a, b, c, d, e, f**

- Connected unit number

If the connected unit field is omitted, then all TSIs connected to the specified unit will be diagnosed.



**sft** - TSI identifier

**s** - See s under CCN above

**f** - FROM Unit

**t** - TO Unit

**e** - Number of lines in the message

**r** - Diagnostic status for an individual TSI

*r Explanation*

A ATP COMPL (All Tests Passed)

C CATP COMPL (Conditional All Tests Passed)

S STF COMPL (Some Tests Failed)

D DNY (Deny)

- unequipped TSIs

**nn** - Condition code for each TSI addressed (-- for unequipped TSIs)

See cc below to interpret values of nn.

**cc** - Hexadecimal condition code

**cc Explanation**

**02 Subject entity is not equipped**

**45 A DMB on the UNIT is 00S**

## **DGN,UNIT,DSPI,CFT,X**

### **DIAGNOSE DSPU**

#### **Explanation Of Command**

This message requests diagnostics to be run on the specified unit's digital signal processing interface.

#### **Command**

[I.41341]

DGN:FRM xy,SEQ ww:UNIT [q]q,DSPI[,CFT X'vwxy]!

#### **Completion Message**

[O.41341]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q DSPI ATP COMPL

[O.41342]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q DSPI CATP cc COMPL

[O.41343]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q DSPI STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL

#### **Denial Message**

[O.41341.01]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q DSPI COND cc DNY

### Autonomous Message

[O.41341]

**I** hh:mm:ss xy,ww DGN UNIT [q]q DSPI ATP COMPL

[O.41342]

**I** hh:mm:ss xy,ww DGN UNIT [q]q DSPI CATP cc COMPL

[O.41343]

**I** hh:mm:ss xy,ww DGN UNIT [q]q DSPI STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL

[O.41341.01]

**I** hh:mm:ss xy,ww DGN UNIT [q]q DSPI COND cc DNY

### Explanation Of Parameters

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**DSPI** - Digital signal processing interface

**CFT** - Craft

**vwxy** - Diagnostic test number

| <i>Test</i>                                            | <i>vwxy</i> |
|--------------------------------------------------------|-------------|
| Processor bus parity checker test<br>(in-service test) | 0001        |
| Interrupt and mask register test<br>(in-service test)  | 0002        |
| Serial interface (in-service test)                     | 0004        |
| Serial interface (out-of-service test)                 | 0008        |

The optional CFT field is used to indicate which diagnostic test(s) is to be run. If this field is omitted, all DSPI diagnostic tests will be run.

**ATP** - All tests passed

**CATP** - Conditional all tests passed

**cc** - Hexadecimal completion condition code for CATP

| <i>cc</i> | <i>Explanation</i>                                                                 |
|-----------|------------------------------------------------------------------------------------|
| 03        | Subject entity is in-service                                                       |
| 37        | DSPI out-of-service                                                                |
| 44        | DSPI is out-of-service; Digital Signaling Processing Circuit (DSPC) is in-service. |

**STF** - Some tests failed

**ppqq** - Trouble number for the craft

pp Failing diagnostic number in hexadecimal form  
qq Test number in hexadecimal form.

| <i>ppqq</i> | <i>Explanation</i>      |
|-------------|-------------------------|
| 0100        | MP Fail                 |
| 0600        | EMTC/MTC Interrupt Fail |
| 0A01        | EBX/BX RAM Data Fail    |
| 0B00        | EBX/BX Interrupt Fail   |
| 0C00        | EBX/BX Acknowledge Fail |

**d5 - d0** - Hexadecimal raw data bytes relating to the failed diagnostic detected.

| <i>Data Byte</i> | <i>Description</i>                       |
|------------------|------------------------------------------|
| d5               | Upper byte of interrupt register 0       |
| d4               | Lower byte of interrupt register 0       |
| d3               | Interrupt register 1                     |
| d2               | Upper byte of side 0 service register 0  |
| d1               | Lower byte of side 0- service register 0 |
| d0               | Unused                                   |

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>Explanation</b>   |
|-----------|----------------------|
| 10        | Unit is not equipped |
| 11        | UC is out of service |
| 36        | DSPI not equipped    |
| 4D        | DSPI is in service   |
| 55        | Invalid CFT code     |
| 56        | Unrunnable CFT code  |

## **DGN,UNIT,FC,CFT,X**

### **DIAGNOSE FORMAT CONVERTER**

#### **Explanation Of Command**

This command requests diagnostics to be run on the specified format converter **UNIT-q**.

#### **Command**

[I.41331]

DGN:FRM xy,SEQ ww:UNIT [q]q,FC sb[,CFT X'vwxy]!

#### **Completion Message**

[O.41331]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q FC sb ATP COMPL

[O.41332]

M hh:mm:ss xy,ww n[vv] DGN UNIT qq FC sb e LN MSG:  
[UPN=<upn> XPN=<xpn>[ BIT={TD|RD}bb]]  
STF ppqq d5 d4 d3 d2 d1 d0 COMPL

[O.41333]

M hh:mm:ss xy,ww n[vv] DGN UNIT qq FC sb CATP COND kk COMPL

#### **Denial Message**

[O.41331.01]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q FC sb COND cc DNY

### Autonomous Message

[O.41331]

I hh:mm:ss xy,ww DGN UNIT [q]q FC sb ATP COMPL

[O.41332]

I hh:mm:ss xy,ww DGN UNIT qq FC sb e LN MSG:  
[UPN=<upn> XPN=<xpn>[ BIT={TD|RD}bb]]  
STF ppqq d5 d4 d3 d2 d1 d0 COMPL

[O.41333]

I hh:mm:ss xy,ww DGN UNIT qq FC sb CATP COND kk COMPL

[O.41331.01]

I hh:mm:ss xy,ww DGN UNIT [q]q FC sb COND cc DNY

### Explanation Of Parameters

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**FC** - Format converter

**s** - Side number (0 or 1)

**b** - FC number (1 through 4)

**CFT** - Craft

**vwxy** - Diagnostic test number

|                  |             |
|------------------|-------------|
| <i>Test</i>      | <i>vwxy</i> |
| CI device test   | 0001        |
| Receiver test    | 0002        |
| Transmitter test | 0004        |

The optional craft diagnostic test number indicates which test(s) of the diagnostic is to be run under craft control. If this number is omitted, all tests including the continuity check will be run.

**ATP** - All tests passed

**STF** - Some tests failed

**e** - Number of lines in the segment (2 or 3)

- UPN** - Unit plug number
- upn** - The value of UPN.
- XPN** - ECCN plug number
- xpn** - The value of XPN
- BIT** - Bit number of the data bus
- TD** - Transmit data
- RD** - Receive data
- bb** - Bit number (00 through 15)

The optional line which contains the unit, plug, and bit information will only be output if continuity checks between the NPC and the ECCN failed. The bit number (i.e., BIT={TD|RD}bb) will be shown if software identifies the bit of the data bus as the failed one. The optional line will always be output with the STF keyword. Valid values of the UPN and XPN are shown below. Note that the numbers shown in the output are exactly the same as the numbers on the backplane.

| Unit Plug<br>Number(FIB†) | Unit Plug<br>Number(OIB‡) | ECCN Plug<br>Number | Direction | Corresponding<br>FC |
|---------------------------|---------------------------|---------------------|-----------|---------------------|
| P01                       | P02                       | PqqA*               | Receive   | FC 01               |
| P02                       | P01                       | PqqE                | Transmit  | FC 01               |
| P03                       | P07                       | PqqB                | Receive   | FC 02               |
| P04                       | P06                       | PqqF                | Transmit  | FC 02               |
| P05                       | P12                       | PqqC                | Receive   | FC 03               |
| P06                       | P11                       | PqqG                | Transmit  | FC 03               |
| P07                       | P17                       | PqqD                | Receive   | FC 04               |
| P08                       | P16                       | PqqH                | Transmit  | FC 04               |
| P10                       | P05                       | PqqA                | Receive   | FC 11               |
| P11                       | P04                       | PqqE                | Transmit  | FC 11               |
| P12                       | P10                       | PqqB                | Receive   | FC 12               |
| P13                       | P09                       | PqqF                | Transmit  | FC 12               |
| P14                       | P15                       | PqqC                | Receive   | FC 13               |
| P15                       | P14                       | PqqG                | Transmit  | FC 13               |
| P16                       | P20                       | PqqD                | Receive   | FC 14               |
| P17                       | P19                       | PqqH                | Transmit  | FC 14               |

\* qq is the unit number

† FIB - Flexible Interface Bay

‡ OIB - Original Interface Bay

|                |                                                                          |  |
|----------------|--------------------------------------------------------------------------|--|
| <b>ppqq</b>    | - Trouble number for the craft (STF code)                                |  |
| pp             | Failing diagnostic number in hexadecimal form                            |  |
| qq             | Test number in hexadecimal form.                                         |  |
| <i>ppqq</i>    | <i>Explanation</i>                                                       |  |
| 0100           | CI device test fail                                                      |  |
| 0200           | Receiver test fail                                                       |  |
| 0300           | Transmitter test fail                                                    |  |
| 0F00           | Error Summary Failure                                                    |  |
| 0F01           | Hardware Fail on ECCI pack                                               |  |
| 0F02           | Hardware Fail on ETSI pack                                               |  |
| 0F03           | RCV Network Data Bus Failure<br>badbit, baddirection & badport           |  |
| 0F04           | RCV Network Data Bus Failure<br>baddirection & badport                   |  |
| 0F05           | XMIT Network Data Bus Failure<br>badbit, baddirection & badport          |  |
| 0F06           | XMIT Network Data Bus Failure<br>baddirection & badport                  |  |
| 0F07           | Pack hardware failure                                                    |  |
| 0F08           | Pack Failed to Initialize for CT                                         |  |
| 0F09           | NPC failed when sourcing                                                 |  |
| 0F0A           | Parent pack failed. For DSP packs DSPI.<br>For FC, FTMI. For FMT, UA.    |  |
| 0F0D           | FC RCV Port alarms before RCV continuity Test                            |  |
| 0F0E           | FC RCV Port alarms after sourcing from MXR/DDC pack                      |  |
| <b>d5 - d0</b> | - Hexadecimal raw data bytes relating to the failed diagnostic detected. |  |
| <i>Byte</i>    | <i>Explanation</i>                                                       |  |
| d5             | Communication interface error source register 0 (ESR0)                   |  |
| d4             | Receive formatter (RF) ESR0                                              |  |
| d3             | RF ESR1                                                                  |  |
| d2             | RF ESR2                                                                  |  |
| d1             | RF STATUS                                                                |  |
| d0             | Transmit formatter (TF) STATUS                                           |  |
| <b>CATP</b>    | - Conditional all test passed on the diagnostic of FC                    |  |
| <b>kk</b>      | - Hexadecimal completion condition code                                  |  |
|                | To interpret values of kk see cc below.                                  |  |



**cc** - Hexadecimal condition code

| <b>cc</b> | <b>Explanation</b>                                                                  |
|-----------|-------------------------------------------------------------------------------------|
| <b>10</b> | Unit is not equipped                                                                |
| <b>11</b> | UC is out of service                                                                |
| <b>13</b> | FTMI is not equipped                                                                |
| <b>14</b> | FTMI is out of service                                                              |
| <b>55</b> | Invalid CFT code                                                                    |
| <b>56</b> | Unrunnable CFT code                                                                 |
| <b>C3</b> | XMIT continuity test<br>won't be run: CFT code<br>specified                         |
| <b>C4</b> | XMIT continuity test<br>won't be run: no XMIT<br>timeslots available                |
| <b>C5</b> | RCV continuity test<br>won't be run: no<br>available inservice<br>NPCS for FC/FMT   |
| <b>C6</b> | No available timeslots<br>on any of the<br>inservice NPCS<br>associated with FC/FMT |
| <b>C7</b> | RCV continuity test<br>won't be run: no DMB<br>timeslots available                  |
| <b>CC</b> | RCV continuity test<br>won't be run: SYNC OOS<br>or pested                          |

## **DGN,UNIT,FLI,CFT,X**

### **DIAGNOSE FLI**

#### **Explanation Of Command**

This message requests the diagnostic of one facility line interface (FLI) in a DS3 Unit. This message can also be autonomously invoked by error recovery and restoration routines.

#### **Command**

[I.41401]

DGN:FRM xy,SEQ ww:UNIT [q]q,FLI k[,CFT X'vwxy]!

#### **Completion Message**

[O.41401]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q FLI k ATP COMPL

[O.41402]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q FLI k CATP cc COMPL

[O.41403]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q FLI k STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL

#### **Denial Message**

[O.41401.01]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q FLI k COND cc DNY

### **Autonomous Message**

---

[O.41401]

**I** hh:mm:ss xy,ww    DGN UNIT [q]q FLI k ATP COMPL

[O.41402]

**I** hh:mm:ss xy,ww    DGN UNIT [q]q FLI k CATP cc COMPL

[O.41403]

**I** hh:mm:ss xy,ww    DGN UNIT [q]q FLI k STF ppqq    2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL

[O.41401.01]

**I** hh:mm:ss xy,ww    DGN UNIT [q]q FLI k COND cc DNY

### **Explanation Of Parameters**

---

**UNIT**            - Unit

**[q]q**            - Unit number (1 through 16)

**FLI**            - Facility line interface

**k**               - FLI identifier

|          |                    |
|----------|--------------------|
| <i>k</i> | <i>Explanation</i> |
| S        | Service FLI        |
| P        | Protection FLI     |

**CFT** - Craft

**vwxxy** - Diagnostic test number

| <i>Test</i>                            | <i>vwxxy</i> |
|----------------------------------------|--------------|
| CI device tests                        | 0001         |
| FLI ESR test                           | 0002         |
| Lock and Key Error Detector Test       | 0004         |
| Loss of Signal and Loss of Clock tests | 0008         |
| LBO control test                       | 0010         |
| FSM test                               | 0020*        |
| FLI/MXR Bent Pin/Continuity Test       | 0040†        |

Unless otherwise designated, the above tests can only be executed when the entity is out of service. If no craft code is specified, all tests will be executed.

**Note:** \*This test can be executed at any time.

†This test is an inservice-only test that requires the other FLI and at least one MXR to be inservice.

**ATP** - All tests passed

**CATP** - Conditional all tests passed

**STF** - Some tests failed

**ppqq** - Failed test number in hexadecimal form

| <i>ppqq</i> | <i>Description</i>                          |
|-------------|---------------------------------------------|
| 0001        | FLI not physically present                  |
| 0002        | FLI initialization Failed                   |
| 0003        | FLI CI device is not in-service             |
| 1000        | FLI CI device Tests Failed                  |
| 2000        | FLI ESR Test Failed                         |
| 3000        | FLI Lock and Key Error Detector Test Failed |
| 4000        | FLI LOS/LOC Test Failed                     |
| 5000        | FLI LBO Test Failed                         |
| 6000        | FLI FSM Test Failed                         |
| 7000        | FLI/MXR Bent Pin/Continuity Test Failed     |

**d5-d0** - Hexadecimal raw data fields relating to the failed diagnostic detected.

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 03** Subject entity is in service
- 04** Subject entity is out of service
- 10** Unit is not equipped
- 11** UC is out of service
- 12** UC is in service but failed
- 55** Invalid CFT code
- 56** Unrunnable CFT code
- 40** The service FLI is out of service or pested (TOSRVC option)
- 41** The protection FLI is out of service or pested (TOPRTN option)
- E8** Other FLI is OOS
- E9** There are no INS MXRs to run test on
- 37** Selected FLI has LOC with at least one inservice MXR
- 38** Unselected FLI has LOS with at least one inservice MXR
- 39** MXR LOS with unselected FLI

---

## **DGN,UNIT,FMT,CFT,X**

---

### **DIAGNOSE FMT**

#### **Explanation Of Command**

---

This message requests the diagnostic of one formatter (FMT) in a DS3 unit. This message can also be autonomously invoked by error recovery and restoration routines.

#### **Command**

---

[I.41411]

DGN:FRM xy,SEQ ww:UNIT [q]q,FMT s[,CFT X'vwxy]!

#### **Completion Message**

---

[O.41411]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q FMT s ATP COMPL

[O.41412]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q FMT s CATP cc \  
{COMPL|3 LN MSG:}  
[upn xpn nn upn xpn nn upn xpn nn upn xpn nn]  
[upn xpn nn upn xpn nn upn xpn nn upn xpn nn COMPL]

[O.41413]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q FMT s STF ppqq e LN MSG:  
[UPN=<upn> XPN=<xpn>[ BIT={TD|RD}bb]]  
d5 d4 d3 d2 d1 d0 COMPL

### Denial Message

[O.41411.01]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q FMT s COND cc DNY

### Autonomous Message

[O.41411]

I hh:mm:ss xy,ww DGN UNIT [q]q FMT s ATP COMPL

[O.41412]

I hh:mm:ss xy,ww DGN UNIT [q]q FMT s CATP cc \  
{COMPL|3 LN MSG:}  
[upn xpn nn upn xpn nn upn xpn nn upn xpn nn]  
[upn xpn nn upn xpn nn upn xpn nn upn xpn nn COMPL]

[O.41413]

I hh:mm:ss xy,ww DGN UNIT [q]q FMT s STF ppqq e LN MSG:  
[UPN=<upn> XPN=<xpn>[ BIT={TD|RD}bb]]  
d5 d4 d3 d2 d1 d0 COMPL

[O.41411.01]

I hh:mm:ss xy,ww DGN UNIT [q]q FMT s COND cc DNY

### Explanation Of Parameters

|      |                              |
|------|------------------------------|
| UNIT | - Unit                       |
| [q]q | - Unit number (1 through 16) |
| FMT  | - Format converter           |
| s    | - FMT side identifier        |
| s    | <i>Explanation</i>           |
| 0    | CCN side 0                   |
| 1    | CCN side 1                   |

**CFT** - Craft**vwxy** - Diagnostic test number

| <i>Test</i>                             | <i>vwxy</i> |
|-----------------------------------------|-------------|
| FMT Communication Interface device Test | 0001*       |
| FMT MXR Protection Switch test          | 0002        |
| FMT RF device test                      | 0004        |
| FMT TF device test                      | 0008        |

**Note:** \*This test can only be executed when the entity is out of service. If no craft code is specified, all tests including the continuity check will be executed.

**ATP** - All tests passed**CATP** - Conditional all tests passed**nn** - Hexadecimal condition code shown in the CATP output to indicate continuity test condition on each individual port**STF** - Some tests failed**ppqq** - Failed test number in hexadecimal form

| <i>ppqq</i> | <i>Description</i>                                   |
|-------------|------------------------------------------------------|
| 0001        | FMT is not physically present                        |
| 0002        | FMT initialization Failed                            |
| 0003        | Unable to read FMT RAM Mask                          |
| 0004        | Unable to restore FMT RAM Mask                       |
| 0100        | FMT CI Test Failed                                   |
| 0200        | FMT MPS Test Failed                                  |
| 0300        | FMT Receive Formatter Test Failed                    |
| 0400        | FMT Transmit Formatter Test Failed                   |
| 0F0D        | FMT RCV Port alarms before RCV Continuity Test       |
| 0F0E        | FMT RCV Port alarms after sourcing from MXR/DDC pack |

**d5-d0** - Raw data

Hexadecimal raw data fields relating to the failed diagnostic detected. The assignment of these data bytes is not fixed but varies with the failure detected. Interpretation of the information requires access to the software and to the programmer that wrote it.

**e** - Number of lines in the segment (2 or 3)



**UPN** - Unit plug number  
**upn** - Value of the UPN  
**XPN** - ECCN Plug Number  
**xpn** - Value of the XPN  
**BIT** - Bit  
**TD** - Transmit data  
**RD** - Receive data  
**bb** - Bit number (00 through 15)

For the STF output, the optional line which contains the unit, port, and pin information will only be output if the continuity check between the format converter and its corresponding ETSI is failed. Valid values of the UPN and XPN are shown below. Note that the numbers shown in the output are exactly the same as the numbers on the backplane.

| Unit Plug Number | ECCN Plug Number | FMT Number | Direction |
|------------------|------------------|------------|-----------|
| P01              | PqqA*            | FMT 0      | Receive   |
| P02              | PqqE             | FMT 0      | Transmit  |
| P03              | PqqB             | FMT 0      | Receive   |
| P04              | PqqF             | FMT 0      | Transmit  |
| P05              | PqqC             | FMT 0      | Receive   |
| P06              | PqqG             | FMT 0      | Transmit  |
| P07              | PqqD             | FMT 0      | Receive   |
| P08              | PqqH             | FMT 0      | Transmit  |
| P10              | PqqA             | FMT 1      | Receive   |
| P11              | PqqE             | FMT 1      | Transmit  |
| P12              | PqqB             | FMT 1      | Receive   |
| P13              | PqqF             | FMT 1      | Transmit  |
| P14              | PqqC             | FMT 1      | Receive   |
| P15              | PqqG             | FMT 1      | Transmit  |
| P16              | PqqD             | FMT 1      | Receive   |
| P17              | PqqH             | FMT 1      | Transmit  |

\* qq is the unit number

The bit number (i.e., BIT={TD|RD}bb) will be shown if software identifies the bit of the data bus as the failed one.

For the CATP output, the optional output line related to continuity test will be shown only if there is at least one port that cannot be diagnosed. The UPN and XPN numbers of the port(s) that is(are) not diagnosed will be output, while those that passed the diagnostic will be represented by dashes (--). The port number will be output in ascending order by UPN number. That is, for side 0, the output will be from P1 to P8, and for side 1 it will be from P10 to P17.

Note that the STF output will supersede the CATP output. That is, as long as there is one port that failed the diagnostic, DACS II must output the STF message without concern about a port that cannot be diagnosed.

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 03** Subject entity is in service
- 04** Subject entity is out of service
- 05** Subject entity is pested
- 10** Unit is not equipped
- 11** UC is out of service
- 12** UC is in service but failed
- 55** Invalid CFT code
- 56** Unrunnable CFT code
- C3** XMIT continuity test won't be run: CFT code specified
- C4** XMIT continuity test won't be run: no XMIT timeslots available
- C5** RCV continuity test won't be run: no available inservice NPCPS for FC/FMT
- C9** CATP due to skipping continuity test for FMT
- CC** RCV continuity test won't be run: SYNC OOS or pested

## **DGN,UNIT,FTMI,CFT,X**

### **DIAGNOSE FACILITY TERMINATING MODULE INTERFACE**

#### **Explanation Of Command**

This message requests diagnostics to be run on the unit's facility terminating module interface.

#### **Command**

[I.41321]

DGN:FRM xy,SEQ ww:UNIT [q]q,FTMI d[,CFT X'vwxy]!

#### **Completion Message**

[O.41321]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q FTMI d ATP COMPL

[O.41322]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q FTMI d STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL

#### **Denial Message**

[O.41321.01]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q FTMI d COND cc DNY

## Autonomous Message

[O.41321]

I hh:mm:ss xy,ww DGN UNIT [q]q FTMI d ATP COMPL

[O.41322]

I hh:mm:ss xy,ww DGN UNIT [q]q FTMI d STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL

[O.41321.01]

I hh:mm:ss xy,ww DGN UNIT [q]q FTMI d COND cc DNY

## Explanation Of Parameters

|             |                                         |
|-------------|-----------------------------------------|
| <b>UNIT</b> | - Unit                                  |
| <b>[q]q</b> | - Unit number (1 through 16)            |
| <b>FTMI</b> | - Facility Terminating Module Interface |
| <b>d</b>    | - FTMI number (1 through 4)             |
| <b>CFT</b>  | - Craft                                 |
| <b>vwxy</b> | - Diagnostic test number                |

| <i>Test</i>           | <i>vwxy</i> |
|-----------------------|-------------|
| Register test         | 0001        |
| Address parity test   | 0002        |
| High data parity test | 0004        |
| Low data parity test  | 0008        |
| CI A data strobe test | 0010        |
| CI A pack id test     | 0020        |
| CI B data strobe test | 0040        |
| CI B pack id test     | 0080        |
| CI C data strobe test | 0100        |
| CI C pack id test.    | 0200        |

All tests listed above can be run in-service.

**Note:** The optional **CFT** field indicates which test(s) of the diagnostic is to be run under craft control. If this field is omitted, all tests of this diagnostic will be run.

**ATP** - All tests passed

**STF** - Some tests failed

**ppqq** - Trouble number for the craft

pp Failing diagnostic number in hexadecimal form

qq Test number in hexadecimal form.

*ppqq Explanation*

0100 Register Test Fail

0200 Address Parity Test Fail

0300 High Data Parity Test Fail

0400 Low Data Parity Test Fail

0500 Data Strobe A Test Fail

0600 Pack ID A Test Fail

0700 Data Strobe B Test Fail

0800 Pack ID B Test Fail

0900 Data Strobe C Test Fail

0A00 Pack ID C Test Fail

**d5-d0** - Raw data

Hexadecimal raw data bytes relating to the failed diagnostic detected.

These data bytes are only used for system development.

**cc** - Hexadecimal condition code

**cc** *Explanation*

**10** Unit is not equipped

**11** UC is out of service

**13** FTMI is not equipped

**55** Invalid CFT code

**56** Unrunnable CFT code

## **DGN,UNIT,MIU,CFT,X**

### **DIAGNOSE MIU**

#### **Explanation Of Command**

This message requests the diagnostic of one Multiplexer Interface Unit (MIU) in a DS3 Unit. This message can also be autonomously invoked by error recovery and restoration routines.

#### **Command**

[I.41431]

DGN:FRM xy,SEQ ww:UNIT [q]q,MIU c[,CFT X'vwxy]!

#### **Completion Message**

[O.41431]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q MIU c ATP COMPL

[O.41432]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q MIU c CATP cc COMPL

[O.41433]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q MIU c STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL

#### **Denial Message**

[O.41431.01]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q MIU c COND cc DNY

## Autonomous Message

[O.41431]

**I** hh:mm:ss xy,ww DGN UNIT [q]q MIU c ATP COMPL

[O.41432]

**I** hh:mm:ss xy,ww DGN UNIT [q]q MIU c CATP cc COMPL

[O.41433]

**I** hh:mm:ss xy,ww DGN UNIT [q]q MIU c STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL

[O.41431.01]

**I** hh:mm:ss xy,ww DGN UNIT [q]q MIU c COND cc DNY

## Explanation Of Parameters

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**MIU** - Multiplexer interface unit

**c** - the number of the MIU within the unit ( $P, 1 \leq c \leq 6$ )

**CFT** - Craft

**vwxy** - Diagnostic test number (hexadecimal)

| <i>Test</i>               | <i>vwxy</i> |
|---------------------------|-------------|
| MIU Sanity test           | 0001*       |
| Facility (NPC level) test | 0002*       |
| MXR Interface test        | 0004        |
| MIU timer test            | 0008        |

\*This test can only be executed if the entity is out of service.  
If no craft code is specified, all tests will be executed.

**ATP** - All tests passed

**pa** - Priority of action

*pa* Explanation

M^ Manual

I^ Information

^ represents a blank character

**CATP** - Conditional all tests passed

**STF** - Some tests failed

**ppqq** - Failed test number in hexadecimal form

| <i>ppqq</i> | <i>Description</i>                          |
|-------------|---------------------------------------------|
| 0001        | MIU not physically present                  |
| 0002        | MIU pack type not readable                  |
| 0003        | MIU software download failed                |
| 0004        | MIU initialization of MXR TX devices failed |
| 0005        | MIU provisioning of MXR TX devices failed   |
| 0006        | MIU initialization #1 of MXR failed         |
| 0007        | MIU initialization #2 of MXR failed         |
| 0008        | MIU initialization of MXR CC devices failed |
| 0100        | MIU Sanity test failed                      |
| 0200        | MIU Facility data link test failed (OOS)    |
| 0300        | MIU/MXR HSCC test failed (OOS)              |
| 0301        | MIU/MXR HSCC test failed (IS)               |
| 0400        | MIU Timer test failed (OOS)                 |
| 0401        | MIU Timer test failed (IS)                  |

**d5-d0** - Hexadecimal raw data fields relating to the failed diagnostic detected.

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                                      |
|-----------|------------------------------------------------------|
| <b>03</b> | Subject entity is in service                         |
| <b>04</b> | Subject entity is out of service                     |
| <b>10</b> | Unit is not equipped                                 |
| <b>11</b> | UC is out of service                                 |
| <b>12</b> | UC is in service but failed                          |
| <b>1B</b> | Required MXR not equipped, not in service, or failed |
| <b>55</b> | Invalid CFT code                                     |
| <b>56</b> | Unrunnable CFT code                                  |
| <b>B3</b> | MIU is already in service                            |
| <b>BF</b> | MIU is not equipped                                  |
| <b>9B</b> | The MXR is not grown                                 |
| <b>B0</b> | FLI is out of service                                |
| <b>B1</b> | FMT is out of service                                |
| <b>B2</b> | MXR is out of service                                |
| <b>06</b> | Mismatch between MXR and MIU HDW types               |



## **DGN,UNIT,MXR,DEV,CFT,X**

### **DIAGNOSE MXR**

#### **Explanation Of Command**

This message request the diagnostic of one multiplexer (MXR) in a DS3 unit. This message can also be autonomously invoked by error recovery and restoration routines.

#### **Command**

[I.41421]

DGN:FRM xy,SEQ ww:UNIT [q]q,MXR c[,DEV devc[,CFT X'vwxy]]!

#### **Completion Message**

[O.41421]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q MXR c[ DEV devc \  
[CFT X'vwxy]] ATP COMPL

[O.41422]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q MXR c[ DEV devc \  
[CFT X'vwxy]] CATP cc COMPL

[O.41423]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q MXR c[ DEV devc \  
[CFT X'vwxy]] 2 LN MSG:  
STF ppqq d5 d4 d3 d2 d1 d0 COMPL

### **Denial Message**

---

[O.41421.01]

**M** hh:mm:ss xy,ww n[vv] **DGN UNIT [q]q MXR c COND cc DNY**

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

|             |                                               |
|-------------|-----------------------------------------------|
| <b>UNIT</b> | - Unit                                        |
| <b>[q]q</b> | - Unit number (1 through 16)                  |
| <b>MXR</b>  | - Multiplexer                                 |
| <b>c</b>    | - MXR number within the unit (P, 1 through 6) |
| <b>DEV</b>  | - Device                                      |
| <b>devc</b> | - MXR device                                  |

**CFT** - Craft

**vwxy** - Diagnostic test number (Hexadecimal)

| <i>devc</i> | <i>Test</i>                                             | <i>Explanation</i> | <i>vwxy</i> |
|-------------|---------------------------------------------------------|--------------------|-------------|
| DS3         | General devices                                         |                    |             |
|             | UA interface Address Parity Test                        |                    | 0001        |
|             | Error Source/Mask Register                              |                    | 0002        |
|             | PLL Out of Lock - DS3 LOC test                          |                    | 0004        |
|             | UA Sanity - Shared RAM                                  |                    | 0008        |
| M13         | M12 and M13 devices                                     |                    |             |
|             | M13 Muldem Tests                                        |                    | 0001        |
|             | MXR/FLI Bent Pin/Continuity Test                        |                    | 0002†       |
| PIF         | Processor Interface                                     |                    |             |
|             | PIF Bus Parity Detector                                 |                    | 0001        |
| HSC         | High-level Serial Communication Controller              |                    |             |
|             | HSC Stuck Bit/Internal Loopback Test                    |                    | 0001        |
| CCxx        | Channel Controllers (xx = 00 (all); xx = 01 through 14) |                    |             |
|             | CC Address Parity Test                                  |                    | 0001        |
|             | CC Stuck Bit of Configuration                           |                    |             |
|             | Register Test                                           |                    | 0002        |
|             | CC IR Stuck Bit and Parity Check                        |                    | 0004*       |
|             | CC Loss of Clock/Sync Error Test                        |                    | 0008*       |
|             | CC Configuration Register Parity                        |                    | 0010*       |
|             | CC Transmit/Receive Data Parity                         |                    | 0020        |
|             | CC Data Parity Exercise                                 |                    | 0040        |
| TXyy        | Transceiver devices (yy = 00 (all); yy = 01 through 28) |                    |             |
|             | Mode Independent System Tests                           |                    | 0001        |
|             | Mode Dependent System Tests.                            |                    | 0002        |

Unless otherwise designated, the above tests can only be executed when the entity is out of service.

\*These tests can be executed at any time.

†This test is an inservice-only test that requires this entity and both FLIs to be inservice.

If no device (devc) is specified, all tests on the MXR will be executed.

If a test number (vwxy) is not specified, all tests related to devc will be executed.

**ATP** - All tests passed

**CATP** - Conditional all tests passed

**cc** - Hexadecimal condition code

**STF** - Some tests failed

**ppqq** - Failed test number

| <i>ppqq</i> | <i>Description</i>                       |
|-------------|------------------------------------------|
| 0001        | MXR is not plugged in                    |
| 0002        | MXR Initialization failure               |
| 0003        | Hardware not ready after reset           |
| 0004        | Hardware reset failed                    |
| 0009        | MXR/Unit Database failure                |
| 000A        | Failure to read MXR HDW type             |
| 000B        | MXR Database failure                     |
| 0010        | HDW/SW mismatch of FLI selection         |
| 0011        | Failure to clear alarms                  |
| 0012        | Failure to mask MXR on FLI               |
| 0013        | Unable to loopback MXR on FLI            |
| 0020        | NPC database failure                     |
| 0100        | UC Interface/Address parity failure      |
| 0200        | Error Source/Mask failure                |
| 0300        | PLL Out-of-Lock/DS3 LOC failure          |
| 0400        | UA Sanity/Shared RAM failure             |
| 0500        | M13 Muldem failure                       |
| 0600        | CC Address Parity failure                |
| 0700        | CC Stuck Bit in CNFR Register failure    |
| 0800        | CC IR Stuck Bit/Parity Check failure     |
| 0900        | CC LOC/Sync Error failure                |
| 1000        | CC Recieve Data Parity failure           |
| 1100        | CC Transmit Data Parity failure          |
| 1200        | CC Data Parity Exercise failure          |
| 1300        | HSCC Stuck Bit/Internal Loopback failure |
| 1400        | Mode Independent Tests failure           |
| 1500        | Mode Dependent Tests failure             |
| 1600        | PIF Bus Parity Detector failure          |
| 1700        | FLI/MXR BENT PIN Test failure            |
| 1800        | Downloadable Diagnostic failure          |

**d5-d0** - Raw data

Hexadecimal raw data fields relating to the failed diagnostic detected

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 02** Subject entity is not equipped
- 03** Subject entity is in service
- 04** Subject entity is out of service
- 10** Unit is not equipped
- 11** UC is out of service
- 12** UC is in service but failed
- 43** (NPC) Hardware mismatch
- 1A** Required FLI not equipped, not in service, or failed
- 1C** Req'd FMT not eq'd, not IS, or failed, or inact side FMT not eq'd, or not IS
- 55** Invalid CFT code
- 56** Unrunnable CFT code
- 99** No Facility Line Interface (FLI) is In Service
- 9B** The MXR is not grown
- B0** FLI is out of service
- B1** FMT is out of service
- 37** Selected FLI has LOC with at least one in-service MXR
- 38** Unselected FLI has LOS with at least one in-service MXR
- 39** MXR LOS with unselected FLI

## **DGN,UNIT,UC,CFT,X**

### **DIAGNOSE UNIT ON UC**

#### **Explanation Of Command**

This command requests diagnostics to be run on the **UNIT-q**'s unit controller.

#### **Command**

[I.41311]

**DGN:FRM xy,SEQ ww:UNIT [q]q,UC[,CFT X'vwxy]!**

#### **Completion Message**

[O.41311]

**M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q UC ATP COMPL**

[O.41312]

**M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q UC CATP cc COMPL**

[O.41313]

**M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q UC STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL**

#### **Denial Message**

[O.41311.01]

**M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q UC COND cc DNY**

## Autonomous Message

[O.41311]

**I** hh:mm:ss xy,ww DGN UNIT [q]q UC ATP COMPL

[O.41312]

**I** hh:mm:ss xy,ww DGN UNIT [q]q UC CATP cc COMPL

[O.41313]

**I** hh:mm:ss xy,ww DGN UNIT [q]q UC STF ppqq 2 LN MSG:  
<d5> <d4> <d3> <d2> <d1> <d0> COMPL

[O.41311.01]

**I** hh:mm:ss xy,ww DGN UNIT [q]q UC COND cc DNY

## Explanation Of Parameters

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**UC** - Unit controller

**CFT** - Craft diagnostic test code

**vwxy** - Diagnostic test number (hexadecimal)

*Test*

*vwxy*

UC RAM test (out-of-service test)

0001

UC ROM test (in-service test)

0002

UC timer test (in-service test)

0004

UC DMA test (out-of-service test)

0008

UC LAN test (out-of-service test)

0010

UC bus error test (in-service test)

0020

UBX register test (out-of-service test)

0040

UBX sanity test (out-of-service test)

0080

## Notes:

1. The optional **CFT** field indicates which test(s) of the diagnostic is to be run under craft control. If this field is omitted, all tests of this diagnostic will be run.
2. Out-of-service diagnostics on the UC will run successfully only if the UC circuit pack is present in the frame and the diagnostic program can communicate with the unit. Otherwise, this message will be denied.

**ATP** - All tests passed

**CATP** - Conditional all tests passed  
The reason for the conditional completion is indicated by cc.

**STF** - Some tests failed

**ppqq** - Trouble number for the craft (hexadecimal)

pp Failing diagnostic number  
qq Test number

*ppqq Explanation*

|      |                                      |
|------|--------------------------------------|
| 0101 | RAM Test Failed - Data Error         |
| 0102 | RAM Test Failed - Address Error      |
| 0103 | RAM Test Failed - Access Error       |
| 0104 | RAM Test Failed - Refresh Error      |
| 0105 | RAM Test Failed - Parity Error       |
| 0200 | ROM Test Failed                      |
| 0400 | Timer Test Failed - Timer Error      |
| 0500 | Timer Test Failed - Input Port Error |
| 0600 | DMA Test Failed                      |
| 0700 | LAN Test Failed                      |
| 0900 | Bus Error Test Failed                |
| 0A00 | UBX Register Test Failed             |
| 0B00 | UBX Sanity Test Failed               |

**d5 - d0** - Hexadecimal raw data bytes relating to the failed diagnostic detected.

*Data Byte Value*

|    |        |
|----|--------|
| d5 | Unused |
| d4 | Unused |
| d3 | Unused |
| d2 | Unused |
| d1 | Unused |
| d0 | Unused |

For in-service UC:

- In-service tests will return ATP (All Tests Passed)
- Out-of-service tests will return CATP (Conditional All Tests Passed)

For out-of-service UC:

- In-service tests will return ATP
- Out-of-service tests will return ATP



**cc** - Hexadecimal condition code

**cc Explanation**

|    |                                  |
|----|----------------------------------|
| 03 | Subject entity is in service     |
| 03 | Subject entity is in service     |
| 04 | Subject entity is out of service |
| 10 | Unit is not equipped             |
| 42 | RST failed to boot program       |
| 55 | Invalid CFT code                 |
| 56 | Unrunnable CFT code              |

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**DACS II**  
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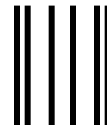
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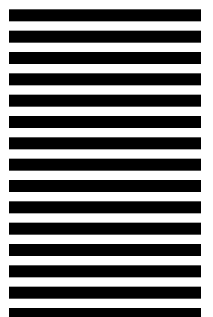
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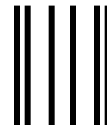
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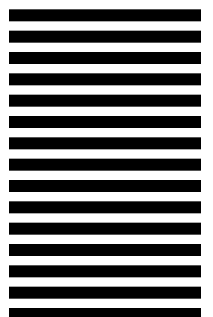
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# About This Document

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## Purpose

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The *DACS II Release 7.0 Command and Message Manual* describes the input commands and output messages of Release 7.0 of the Digital Access and Cross-Connect System II (DACS II). In addition, it provides full support for previous product releases.

 **NOTE:**

Those customers using this manual with Releases 3 through 6.1 software should be aware that all features of a particular message shown for Release 7.0 may or may not apply to previous releases.

This manual consists of three volumes as follows:

- **Volume I** - This volume contains general information about the document, a detailed introduction that defines DACS II messages, relates how to communicate with DACS II, introduces the administrative links, and discusses in detail NPC addressing, on-line help feature, system configuration and features a listing of related documentation and a glossary. Message listings in this volume include alphabetical and numerical, summary list of input commands and a list of autonomous messages. A comprehensive presentation of input commands and output messages (ABT through DGN) concludes this volume.
- **Volume II and III** - These two volumes contain input commands and output messages in the following order:
  - **Volume II** - DGRTH through SW
  - **Volume III** - TABS through UTL

---

## **Release 7.0.3 Addendum**

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The *DACS II Release 7.0.3 Command and Message Manual Addendum* consists of the following list of items to be inserted or replaced in your *DACS II Release 7.0 Command and Message Manual*:

- Updated manual Table of Contents for each volume
- Updated "About this Document" section for each volume
- Updated "Alphabetic Message List" (Chapter 2)
- Updated "Numeric Message List" (Chapter 3)
- Updated "Summary of Input Commands" (Chapter 4)
- New section, "Release 7.0.3 Addendum," consisting of updated and new commands applicable to Release 7.0.3.
- Updated manual index for each volume

The instructional page enclosed with the Addendum will explain how to incorporate these new items into the Release 7.0 documentation.

## **Intended Audiences**

---

This manual is a catalog of messages intended for reference by a technician or craftperson who needs additional details about a message. It provides the user with supplemental information for the Digital Access and Cross-Connect System II (DACS II) that is programmed in the Program Documentation Standards (PDS) language. An example of a user is someone performing a task from an operation and maintenance manual who needs the definition of a specific keyword to complete the task.

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## **DGRTH — DLT**

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This section documents the commands **DGRTH** through **DLT**.

## **DGRTH,NPC**

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### **DEGROWTH NPC**

#### **Explanation Of Command**

---

This command unequips network processing circuits (NPCs) in DACS II Facility Terminating Units (FTU), DS3 Units (DS3U) and Digital Signal Processing Units (DSPU). This command unequips network processing circuits (NPCs) in DACS II Facility Terminating Units (FTU) and Digital Signal Processing Units (DSPU).

It may be used to unequip a single NPC or a range of NPCs in an FTU or DS3U. However, Digital Signal Processing Circuits must be individually unequipped. When ranges of NPCs are addressed, the **DISC-EQPT** command will show a completion indication after the last NPC in the range is unequipped or the highest numbered NPC is successfully unequipped. **Before** the completion indication is output, individual denial messages will be output for each **NPC that is denied unequipage**. When ranges of NPCs are addressed, the **DGRTH** command will show a completion indication after the last NPC in the range is unequipped or the highest numbered NPC is successfully unequipped. **Before** the completion indication is output, individual denial messages will be output for each **NPC that is denied unequipage**.

For C-bit processing DSPU circuit packs (**CB**-type NPCs), unequipping an NPC range is not allowed. One output message is printed for each NPC that is successfully unequipped.

When an NPC range degrowth command within a unit crosses a Facility Terminating Module (FTM) boundary, if the FTM is unequipped, or the NPC is unequipped, in-service, designated as NPC test port for test ports, has active terminations or circuits under test, or for other conditions, gaps for such FTMs or two or more such NPCs will be skipped, with a summary message, as noted below.

Specifically:

- (a) Degrowth commands where the range address crosses a unit boundary will be denied.
- (b) For the degrowth NPC range command: output messages for such gaps of two or more NPCs will be denied in a summary command. The denial summary will use a floating window denial:

#### **Floating Window Denial Message**

Where a range NPC command is denied for successive NPCs in the range **for the same reason**, a summary denial message will be output, giving the range of NPCs denied, and the

reason. The execution of the normal completions, or of denials for a reason other than diagnostic failures, then resumes at the next NPC, up to the end of the range.

### **Command**

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#### **Nonhierarchical**

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[I.32341]

DGRTH:FRM xy,SEQ ww:NPC [s]abc[-[t]def]!

#### **Hierarchical**

---

[I.32341]

DGRTH:FRM xy,SEQ ww:NPC uvmnp[-uvkqr]!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.32341]

M hh:mm:ss xy,ww n[vv] DGRTH NPC [s]ghi TYPE mnxyz COMPL

#### **Hierarchical**

---

[O.32341]

M hh:mm:ss xy,ww n[vv] DGRTH NPC uvghi TYPE mnxyz COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.32341.01]

M hh:mm:ss xy,ww n[vv] DGRTH NPC [s]abc{[-[t]def]} TYPE -----} UEQD DNY

[O.32341.02]

M hh:mm:ss xy,ww n[vv] DGRTH NPC [s]abc{[-[t]def]} TYPE mnxyz} IS DNY



[O.32341.03]

M hh:mm:ss xy,ww n[vv] DGRTH NPC [s]abc{[-[t]def]} TYPE mnxyz} {NPCTP|NPCTG} DNY

[O.32341.04]

M hh:mm:ss xy,ww n[vv] DGRTH NPC [s]abc{[-[t]def]} TYPE mnxyz} TERM ASGN \ DNY

[O.32341.05]

M hh:mm:ss xy,ww n[vv] DGRTH NPC [s]abc{[-[t]def]} TYPE mnxyz} COND cc DNY

### **Hierarchical**

---

[O.32341.01]

M hh:mm:ss xy,ww n[vv] DGRTH NPC uvmnp{[-uvkqr]} TYPE -----} UEQD DNY

[O.32341.02]

M hh:mm:ss xy,ww n[vv] DGRTH NPC uvmnp{[-uvkqr]} TYPE mnxyz} IS DNY

[O.32341.03]

M hh:mm:ss xy,ww n[vv] DGRTH NPC uvmnp{[-uvkqr]} TYPE mnxyz} {NPCTP|NPCTG} DNY

[O.32341.04]

M hh:mm:ss xy,ww n[vv] DGRTH NPC uvmnp{[-uvkqr]} TYPE mnxyz} TERM ASGN DNY

[O.32341.05]

M hh:mm:ss xy,ww n[vv] DGRTH NPC uvmnp{[-uvkqr]} TYPE mnxyz} COND cc DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number, denoting the beginning of the range.

**[t]def** - The 3- or 4-digit nonhierarchical NPC number, denoting the end of the range.

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |

| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |

| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |

| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

| Unit<br>1  | Unit<br>2  | Unit<br>3  | Unit<br>4  | Unit<br>5  | Unit<br>6  |
|------------|------------|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| <b>001</b> | <b>161</b> | <b>321</b> | <b>481</b> | <b>641</b> | <b>801</b> |
| <b>021</b> | <b>181</b> | <b>341</b> | <b>501</b> | <b>661</b> | <b>821</b> |
| <b>041</b> | <b>201</b> | <b>361</b> | <b>521</b> | <b>681</b> | <b>841</b> |
| <b>061</b> | <b>221</b> | <b>381</b> | <b>541</b> | <b>701</b> | <b>861</b> |
| <b>081</b> | <b>241</b> | <b>401</b> | <b>561</b> | <b>721</b> | <b>881</b> |
| <b>101</b> | <b>261</b> | <b>421</b> | <b>581</b> | <b>741</b> | <b>901</b> |
| <b>121</b> | <b>281</b> | <b>441</b> | <b>601</b> | <b>761</b> | <b>921</b> |
| <b>141</b> | <b>301</b> | <b>461</b> | <b>621</b> | <b>781</b> | <b>941</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

| Unit<br>1   | Unit<br>2   | Unit<br>3   | Unit<br>4   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0001</b> | <b>0161</b> | <b>0321</b> | <b>0481</b> |
| <b>0021</b> | <b>0181</b> | <b>0341</b> | <b>0501</b> |
| <b>0041</b> | <b>0201</b> | <b>0361</b> | <b>0521</b> |
| <b>0061</b> | <b>0221</b> | <b>0381</b> | <b>0541</b> |
| <b>0081</b> | <b>0241</b> | <b>0401</b> | <b>0561</b> |
| <b>0101</b> | <b>0261</b> | <b>0421</b> | <b>0581</b> |
| <b>0121</b> | <b>0281</b> | <b>0441</b> | <b>0601</b> |
| <b>0141</b> | <b>0301</b> | <b>0461</b> | <b>0621</b> |
| Unit<br>5   | Unit<br>6   | Unit<br>7   | Unit<br>8   |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0641</b> | <b>0801</b> | <b>0961</b> | <b>1121</b> |
| <b>0661</b> | <b>0821</b> | <b>0981</b> | <b>1141</b> |
| <b>0681</b> | <b>0841</b> | <b>1001</b> | <b>1161</b> |
| <b>0701</b> | <b>0861</b> | <b>1021</b> | <b>1181</b> |
| <b>0721</b> | <b>0881</b> | <b>1041</b> | <b>1201</b> |
| <b>0741</b> | <b>0901</b> | <b>1061</b> | <b>1221</b> |
| <b>0761</b> | <b>0921</b> | <b>1081</b> | <b>1241</b> |
| <b>0781</b> | <b>0941</b> | <b>1101</b> | <b>1261</b> |

| Unit<br>9   | Unit<br>10  | Unit<br>11  | Unit<br>12  |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1281</b> | <b>1441</b> | <b>1601</b> | <b>1761</b> |
| <b>1301</b> | <b>1461</b> | <b>1621</b> | <b>1781</b> |
| <b>1321</b> | <b>1481</b> | <b>1641</b> | <b>1801</b> |
| <b>1341</b> | <b>1501</b> | <b>1661</b> | <b>1821</b> |
| <b>1361</b> | <b>1521</b> | <b>1681</b> | <b>1841</b> |
| <b>1381</b> | <b>1541</b> | <b>1701</b> | <b>1861</b> |
| <b>1401</b> | <b>1561</b> | <b>1721</b> | <b>1881</b> |
| <b>1421</b> | <b>1581</b> | <b>1741</b> | <b>1901</b> |
|             |             |             |             |
| Unit<br>13  | Unit<br>14  | Unit<br>15  | Unit<br>16  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1921</b> | <b>2081</b> | <b>2241</b> | <b>2401</b> |
| <b>1941</b> | <b>2101</b> | <b>2261</b> | <b>2421</b> |
| <b>1961</b> | <b>2121</b> | <b>2281</b> | <b>2441</b> |
| <b>1981</b> | <b>2141</b> | <b>2301</b> | <b>2461</b> |
| <b>2001</b> | <b>2161</b> | <b>2321</b> | <b>2481</b> |
| <b>2021</b> | <b>2181</b> | <b>2341</b> | <b>2501</b> |
| <b>2041</b> | <b>2201</b> | <b>2361</b> | <b>2521</b> |
| <b>2061</b> | <b>2221</b> | <b>2381</b> | <b>2541</b> |

**uvmnp, uvkqr**

- Hierarchical NPC numbers

**uv** - Unit number

**m, k** - Module number

**np, qr** - NPC number within the module

The values are:

DE, DS, and DA type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

MB, SR, and MJ type numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

|              |            |           |
|--------------|------------|-----------|
| Unit         | Module     | NPC       |
| <b>01-16</b> | <b>1-8</b> | <b>01</b> |

**Note:** Range is not allowed for DSPU NPC degrowth.  
With exceptions, an NPC must first be removed from service  
with the RMV,NPC,SIDE,INCL message before it can be degrown.

The exceptions are DSPU NPCs. If a cross-connected channel or a channel under test is  
present on the NPC, the message will be denied.

Degrowth of DMB NPCs results in degrowth of both duplicated NPCs in a DSPU NPC  
circuit pack. For other DSPU NPCs, there is only one NPC per circuit pack.  
One of the duplicated NPCs may first be removed from service with the  
RMV,NPC,SIDE,INCL message.

If both NPCs are in service, both will be automatically removed during the degrowth of NPC  
operation. If a cross-connected channel is present on the NPC, the message will be  
denied.

Additionally, the SLC carrier terminated digroups must be deleted from the SLC  
carrier bank by executing the DLT,RT,DL,DGA,DGB,DGC,DGD,DGP command.

**[s]ghi** - The 3- or 4-digit nonhierarchical NPC number ([s]abc through [t]def)  
**[s]jkl** - The 3- or 4-digit nonhierarchical NPC number ([s]abc through [t]mno)  
**[t]mno** - The 3- or 4-digit nonhierarchical NPC number ([s]ghi through [t]def)

**uvghi** - Hierarchical NPC number within the range of uvmnp and uvkqr  
**uvjkl** - Hierarchical NPC number within the range of uvmnp and uvmno  
**uvmno** - Hierarchical NPC number within the range of uvjkl and uvkqr

**TYPE** - Type

**mnxyz** - NPC-type identifier

|    |                               |
|----|-------------------------------|
| mn | Explanation                   |
| DA | Dual digroup ANSI NPC         |
| DE | Dual digroup NPC              |
| DS | SLC® carrier NPC              |
| TA | DS3U ANSI NPC                 |
| TE | DS3U Noninterface unit NPC    |
| MB | Digital multipoint bridge NPC |

MJ     Multipoint junction unit NPC  
SR     Subrate multiplexer unit NPC

**UEQD** - Unequipped

The specified NPC is already unequipped

**IS** - In-service

The specified NPC is in service

**NPCTP** - NPC (for) test port

The specified NPC is designated for DS0 test ports

**NPCTG** - NPC (for) test group

The specified NPC is designated for Nx64Kbit/s test groups

**TERM** - Termination

**ASGN** - Assigned

The specified NPC has active or under-test assigned termination

**COND** - Condition

The specified NPC is denied due to condition given by cc

**cc** - Hexadecimal condition code

**cc**     *Explanation*

|           |                                             |
|-----------|---------------------------------------------|
| <b>00</b> | No conditions                               |
| <b>10</b> | Unit is not equipped                        |
| <b>11</b> | UC is out of service                        |
| <b>12</b> | UC is in service but failed                 |
| <b>13</b> | FTMI is not equipped                        |
| <b>15</b> | NPC is unequipped                           |
| <b>24</b> | Unit type error                             |
| <b>35</b> | NPC has active circuit                      |
| <b>3F</b> | Conference exists in a DMB                  |
| <b>8F</b> | NPC not deleted                             |
| <b>9C</b> | SRDC timeslots are allocated on this NPC    |
| <b>F2</b> | Invalid NPC number specified                |
| <b>FD</b> | NPC range crosses unit boundary             |
| <b>03</b> | DS3U NPC already In-Service                 |
| <b>69</b> | Use of this NPC is RESERVED for SLC 96 MD 1 |

## **DGRTH,NPC,NPCTG,TGR**

### **DEGROWTH TEST-ACCESS GROUP NPC**

#### **Explanation Of Command**

This command is used to request the removal of the test-access group (TG) designation from a network processing circuit for test-access groups. All TGs associated with this NPCTG must be released before the NPCTG can be deprovisioned. If "TGR" is specified in the command all active TGs will be released and deprovisioned before the NPCTG is deprovisioned. Any out-of-serve (OOS) condition will be bypassed.

A TG may be supported by one or two NPCTGs. Deprovisioning of an NPCTG that supports half (one bundle) of an active TG, will result in the release and deprovisioning of the entire TG; provided "TGR" was specified.

#### **Command**

##### **Nonhierarchical**

[I.32401]

**DGRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTG rrr[,TGR]!**

##### **Hierarchical**

[I.32401]

**DGRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTG rrr[,TGR]!**



## **Completion Message**

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### **Nonhierarchical**

---

[O.32401]

M hh:mm:ss xy,ww n[vv] DGRTH NPC [s]abc NPCTG rrr COMPL

or

[O.32402]

M hh:mm:ss xy,ww n[vv] DGRTH NPC [s]abc NPCTG rrr[ TGR] p LN MSG:  
TGS mmm[,mmm][,mmm][,mmm][,mmm][,mmm][,mmm][,mmm]  
[TGS mmm[,mmm][,mmm][,mmm][,mmm][,mmm][,mmm][,mmm]  
[TGS mmm[,mmm][,mmm][,mmm][,mmm][,mmm][,mmm][,mmm] COMPL

### **Hierarchical**

---

[O.32401]

M hh:mm:ss xy,ww n[vv] DGRTH NPC uvmnp NPCTG rrr COMPL

or

[O.32402]

M hh:mm:ss xy,ww n[vv] DGRTH NPC uvmnp NPCTG rrr[ TGR] p LN MSG:  
TGS mmm[,mmm][,mmm][,mmm][,mmm][,mmm][,mmm][,mmm]  
[TGS mmm[,mmm][,mmm][,mmm][,mmm][,mmm][,mmm][,mmm]  
[TGS mmm[,mmm][,mmm][,mmm][,mmm][,mmm][,mmm][,mmm] COMPL

## **Denial Message**

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### **Nonhierarchical**

---

[O.32401.01]

M hh:mm:ss xy,ww n[vv] DGRTH NPC [s]abc NPCTG rrr[ TGR][ TG mmm] COND cc DNY

## Hierarchical

[O.32401.01]

M hh:mm:ss xy,ww n[vv] DGRTH NPC uvmnp NPCTG rrr[ TGR][ TG mmm] COND cc DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The values are:

DE type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

Unit    Module NPC  
**01-16 1-4    01-40**

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**NPCTG** - NPC (for) test group

**rrr** - NPCTG number (1 through 400)

**TGR** - TG release

This keyword causes any active TGs supported by this NPCTG to be released from testing and degrown before the NPCTG is degrown. It is required if the NPCTG has active TGs.

**TGS** - TGs supported by the NPCTG

**mmm** - TG number (1 through 400)

Lowest TG number supported by the NPCTG. This number will be '000' if all TGs have been degrown.

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                                   |
|-----------|---------------------------------------------------|
| <b>15</b> | NPC is unequipped                                 |
| <b>89</b> | NPC is not designated for this NPCTP/NPCTG        |
| <b>A4</b> | NPC is not a NPCTG                                |
| <b>A5</b> | Test group is not idle or frame is not In Service |
| <b>A6</b> | Test group release failed                         |
| <b>A8</b> | NPCTG not grown                                   |

## **DGRTH,NPC,NPCTP,TPR**

### **DEGROWTH TEST PORT NPC**

#### **Explanation Of Command**

This message requests removal of the specified test port designation from the network processing circuit. It deprovisions all test ports in all four test access digroups.

#### **Command**

##### **Nonhierarchical**

[I.32381]

DGRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTP n[,TPR]!

##### **Hierarchical**

[I.32381]

DGRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTP n[,TPR]!

#### **Completion Message**

##### **Nonhierarchical**

[O.32381]

M hh:mm:ss xy,ww n[vv] DGRTH NPC [s]abc NPCTP n TPS kk-nn\  
[ TPR] COMPL

### **Hierarchical**

[O.32381]

M hh:mm:ss xy,ww n[vv] DGRTH NPC uvmnp NPCTP n TPS kk-nn\  
[ TPR] COMPL

### **Denial Message**

### **Nonhierarchical**

[O.32381.01]

M hh:mm:ss xy,ww n[vv] DGRTH NPC [s]abc NPCTP n[ TPR] \  
COND cc DNY

### **Hierarchical**

[O.32381.01]

M hh:mm:ss xy,ww n[vv] DGRTH NPC uvmnp NPCTP n[ TPR] \  
COND cc DNY

### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |



If NPC numbers are expressed in four digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The values are:

DE type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**NPCTP** - NPC test port  
**n** - NPCTP number (1 through 8)

**TPR** - Test port release

This keyword causes any active test ports to be released from service before the test port NPC is degrown. Without the TPR keyword, the test ports must all be idle or the command is denied.

**TPS** - Test ports

**kk** - Beginning test port number

**nn** - Ending test port number

kk and nn indicate the range of test port numbers which the named NPC included

| <i>n</i> | <i>kk</i> | <i>nn</i> |
|----------|-----------|-----------|
| 1        | 01        | 12        |
| 2        | 13        | 24        |
| 3        | 25        | 36        |
| 4        | 37        | 48        |
| 5        | 49        | 60        |
| 6        | 61        | 72        |
| 7        | 73        | 84        |
| 8        | 85        | 96        |

**cc** - Hexadecimal condition code

**cc**    *Explanation*

|           |                                                 |
|-----------|-------------------------------------------------|
| <b>15</b> | NPC is unequipped                               |
| <b>88</b> | NPC is not a NPCTP                              |
| <b>89</b> | NPC is not designated for this NPCTP/NPCTG      |
| <b>8A</b> | NPCTP is not grown                              |
| <b>8B</b> | Test port is not idle or frame is not inservice |
| <b>98</b> | Test Port release failed                        |

## **DGRTH,SYNC,TB**

DEGROWTH SYNCHRONIZER TIME BASE

### **Explanation Of Command**

This command requests the deprovisioning of the synchronizer time base.

### **Command**

[I.32101]

**DGRTH:FRM xy,SEQ ww:SYNC,TB!**

### **Completion Message**

[O.32101]

**M hh:mm:ss xy,ww n[vv] DGRTH SYNC TB TYPE TBpqr COMPL**

### **Denial Message**

[O.32101.01]

**M hh:mm:ss xy,ww n[vv] DGRTH SYNC TB TYPE TBpqr COND cc DNY**

### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**SYNC** - Synchronizer

**TYPE** - Type

**TB** - Time base

**p** - Time base identifier

**qr** - Unassigned

q and r can take any value from 0 through 9

**p**      *Time base*

**0**      Stratum 3

**1**      CEPT Local

**2**      CEPT Toll

**3**      Stratum 2

**Note:** pqr will be shown as "---" if the synchronizer is not equipped.

**cc** - Hexadecimal condition code

**cc**      *Explanation*

**16**      SYNC TB is not equipped

**A4**      Both syncs are in-service

## **DGRTH,SYNC,TLI,SSP**

### **DEPROVISION SYNCHRONIZER TIMING LINK INTERFACE**

#### **Explanation Of Command**

This message requests the deprovisioning of the synchronizer's timing link interface.

If the timing link interface was configured as a timing extractor (**TYPE - txyz**), the synchronizer sync port must be specified as well.

On output, note that the NPC option can be a source of synchronization for a timing link interface. When a TU type TLI receiving its input from an NPC is degrown, the NPC must be marked as no longer being a synchronizer source.

#### **Command**

[I.32121]

**DGRTH:FRM xy,SEQ ww:SYNC,TLI m[,SSP a]!**

#### **Completion Message**

[O.32121]

**M hh:mm:ss xy,ww n[vv] DGRTH SYNC TLI m 2 LN MSG:  
{SSP a SRC p TYPE txyz|TYPE TDpqr|TYPE TBpqr} COMPL**

#### **Denial Message**

[O.32121.01]

**M hh:mm:ss xy,ww n[vv] DGRTH SYNC TLI m 2 LN MSG:  
{SSP a SRC p TYPE txyz|TYPE TDpqr|TYPE TBpqr} COND cc DNY**

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**SYNC** - Synchronizer

**TLI** - Timing link interface

**m** - TLI number (1 through 4)

**SSP** - Synchronizer synchronization port

**a** - SSP number (0 or 1)

**SRC** - Source

**p** - Synchronization port priority (1 through 8)

*p*      *Explanation*

1      HIGHEST priority

8      LOWEST priority

**TYPE** - Type

**texyz** - Timing extractor type

*texyz*      *Explanation*

TCxyz      Composite Clock Timing Extractor

TExyz      DS1 Timing extractor

TPxyz      Primary Block Timing Extractor (xyz values are listed below)

TRxyz      Basic System Reference Frequency

TUxyz      Unipolar Clock Timing Extractor

-----      Not Equipped

TE-type TLI xyz fields

|             |                     |
|-------------|---------------------|
| <b>x</b>    | - Frame format      |
| <b>x</b>    | <i>Explanation</i>  |
| <b>0</b>    | Invalid             |
| <b>1</b>    | D4 Format           |
| <b>2, 3</b> | ESF Format          |
| <b>4</b>    | DDS (T1DM) Format   |
| <b>5-9</b>  | Invalid             |
| <b>y</b>    | - Line format       |
| <b>y</b>    | <i>Explanation</i>  |
| <b>0, 1</b> | Bipolar Line Coding |
| <b>2</b>    | B8ZS Line Coding    |
| <b>3</b>    | Invalid             |
| <b>4, 5</b> | Bipolar Line Coding |
| <b>6</b>    | B8ZS Line Coding    |
| <b>7-9</b>  | Invalid             |
| <b>z</b>    | - Channel format    |
| <b>z</b>    | <i>Explanation</i>  |
| <b>0-9</b>  | Unassigned          |

TC, TR, and TU-type TLI xyz fields

|                                        |                  |
|----------------------------------------|------------------|
| <b>x</b>                               | - Frame format   |
| <b>y</b>                               | - Line format    |
| <b>z</b>                               | - Channel format |
| Values for x, y, and z are unassigned. |                  |



**TD** - Timing distributor

**p** - Timing distributor identification

Variable TDpqr equals "-----" if the timing distributor is not equipped.

*p*      *Explanation*

1      Composite clock timing distribution

2      Sinusoidal 2.048 MHz timing distribution

qr      Unassigned

**TB** - Time base

**p** - Time base identifier

**qr** - Unassigned

q and r can take any value from 0 through 9

*p*      *Time base*

0      Stratum 3

1      CEPT Local

2      CEPT Toll

3      Stratum 2

**Note:** pqr will be shown as "---" if the synchronizer is not equipped.

**cc** - Hexadecimal condition code

**cc**      **Explanation**

02      Subject entity is not equipped

03      Subject entity is in service

A1      CRO type TLI (SSP portion not required)

A2      SSP number is illegal

A3      SSP number required

B8      CRO is still equipped

BE      Hardware mismatch or not present

CC      NPC is still provisioned to provide  
sync timing

---

## **DGRTH,TG**

---

### **DEGROWTH TEST-ACCESS GROUP**

#### **Explanation Of Command**

---

This command is used to request the deprovisioning of one or more idle test-access groups.

#### **Command**

---

[I.32421]

**DGRTH:FRM xy,SEQ ww:TG mmm[-nnn]!**

#### **Completion Message**

---

[O.32421]

**M hh:mm:ss xy,ww n[vv] DGRTH TG mmm[-nnn] p LN MSG:**  
**TG mmm,rrr,sss[ TG mmm,rrr,sss][ TG mmm,rrr,sss][ TG mmm,rrr,sss]**  
**[TG mmm,rrr,sss][ TG mmm,rrr,sss][ TG mmm,rrr,sss][ TG mmm,rrr,sss]**  
**[TG mmm,rrr,sss][ TG mmm,rrr,sss][ TG mmm,rrr,sss][ TG mmm,rrr,sss]**  
**[TG mmm,rrr,sss][ TG mmm,rrr,sss][ TG mmm,rrr,sss][ TG mmm,rrr,sss] {EOM|COMPL}**

or

**M hh:mm:ss xy,ww n[vv] DGRTH TG ppp[-qqq] UEQD {EOM|COMPL}**

#### **Denial Message**

---

[O.32421.01]

**M hh:mm:ss xy,ww n[vv] DGRTH TG mmm[-nnn] [TGS ttt[-uuu]] COND cc DNY**

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**TG** - Test-access Group

**mmm** - TG number (1 through 400)

**nnn** - End of TG range number (1 through 400)

**rrr** - East-bundle NPCTG number (1 through 400)

**sss** - West-bundle NPCTG number (1 through 400)

**UEQD** - Unequipped

**ppp,qqq**  
- Unequipped TGs in specified range

**ttt,uuu**  
- Active TGs in specified range

**cc** - Hexadecimal condition code

**cc** *Explanation*

**63** None of the designated TG(s) are equipped

**A5** Test group is not idle or frame is not In Service

## **DGRTH,TP**

### **DEGROWTH**

#### **Explanation Of Command**

This message requests the unequipage of a specified test port. Any subsequent test access requests for this test port will be denied. Also, if the specified test port is in use, the command will be denied.

When degrowth of the specified test port is completed, the channel units associated with this test port are no longer assumed in place, and no test ports with numbers greater than the one specified remain equipped.

#### **Command**

[I.32411]

**DGRTH:FRM xy,SEQ ww:TP kk!**

#### **Completion Message**

[O.32411]

**M hh:mm:ss xy,ww n[vv] DGRTH TP kk COMPL**

#### **Denial Message**

[O.32411.01]

**M hh:mm:ss xy,ww n[vv] DGRTH TP kk NPCTP UEQD DNY**

[O.32411.02]

**M hh:mm:ss xy,ww n[vv] DGRTH TP kk NOT IDLE DNY**

[O.32411.03]

M hh:mm:ss xy,ww n[vv] DGRTH TP kk TPMAX nn TP NSO DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**TP** - Test port

**kk** - Test port number (01 through 96)

**NPCTP** - NPC for test ports

**UEQD** - Unequipped

**TPMAX** - Test port maximum

**nn** - Test port number (01 through 96)

**NSO** - Not in sequence order

Degrowth of test port kk can be denied under the following conditions:

- The NPCTP (network processing circuit for test ports) has not been designated or UEQD.
- The requested test port is not idle. The test port is currently assigned to a cross-connected channel for test access (NOT-IDLE).
- The requested test port is NSO (not in sequence order) (TPMAX=nn, TP, NSO). That is, kk is not equal to the highest existing test port number nn in the NPCTP.

## **DGRTH,UNIT**

### **DEGROW UNIT**

#### **Explanation Of Command**

When this request is completed, the two ETSI circuit packs required by the subject unit to cross-connect to other grown units are unequipped.

This message requests the degrowth of a DACS II unit.

When this request is completed, all cross-connect buffer and time slot interchange circuit packs required by the subject unit to cross-connect to other grown units are degrown.

When this request is completed, the two ETSI circuit packs required by the subject unit to cross-connect to other grown units are degrown.

#### **Command**

[I.32211]

**DGRTH:FRM xy,SEQ ww:UNIT [q]q!**

## Completion Message

For DACS II Non-CEF frames:  
[O.32211]

```
M hh:mm:ss xy,ww n[vv] DGRTH UNIT q 5 LN MSG:
TOTAL TSIS tt DEGROWN TSIS dd
sft sft sft sft sft sft sft sft sft sft
sft sft sft sft sft sft sft sft sft sft
sft sft sft sft sft sft sft sft sft sft EOM
```

```
M hh:mm:ss xy,ww n[vv] DGRTH UNIT q 5 LN MSG:
TOTAL TSIS tt DEGROWN TSIS dd
sft sft sft sft sft sft sft sft sft sft
sft sft sft sft sft sft sft sft sft sft
sft sft sft sft sft sft sft sft sft sft EOM
```

```
M hh:mm:ss xy,ww n[vv] DGRTH UNIT q e LN MSG:
TOTAL TSIS tt DEGROWN TSIS dd
DEGROWN TSIS sft sft ... sft sft
```

.  
.  
.

```
DEGROWN TSIS sft sft ... sft sft {EOM|COMPL}
```

If the unit is a DS3 Unit, the above message will be followed by this segment:

[O.32211]

```
M hh:mm:ss xy,ww n[vv] DGRTH UNIT q e LN MSG:
[REMOVED FMT[ 0][ 1]]
DEGROWN FMT 0 1 FLI S P MXR P COMPL
```

**Note:** The line corresponding to FMT removal will only be output if one or both FMTs have been removed.

For DACS II CEF frames:  
[O.32212]

```
M hh:mm:ss xy,ww n[vv] DGRTH UNIT qq 4 LN MSG:
TOTAL ETSIS kk DEGROWN ETSI 0qq 1qq
0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr \
0rr 1rr
0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr \
0rr 1rr {EOM|COMPL}
```

If the unit is a DS3 Unit, the above message will be followed by this segment:

[O.32211]

M hh:mm:ss xy,ww n[vv] DGRTH UNIT qq e LN MSG:  
[REMOVED FMT[ 0][ 1]]  
DEGROWN FMT 0 1 FLI S P MXR P COMPL

**Note:** The line corresponding to FMT removal will only be output if one or both FMTs have been removed.

### **Denial Message**

---

[O.32211.01]

M hh:mm:ss xy,ww n[vv] DGRTH UNIT [q]q UEQD DNY

[O.32211.02]

M hh:mm:ss xy,ww n[vv] DGRTH UNIT [q]q \  
[ {FTMI m EQD|NPC l EQD|[MXR k][ MIU P][ EQD] } ][ FLI c IS] \  
DNY

[O.32211.03]

M hh:mm:ss xy,ww n[vv] DGRTH UNIT [q]q COND cc DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**TOTAL** - Total

**TSIS** - Time slot interchangers

**tt** - Total number of provisioned TSIs in frame after unit is degrown  
(00 through 70)

**dd** - Number of TSIs deprovisioned by command (00 through 22)



**sft** - TSI equipped status

**s** - Service side number (0 or 1)

**f**

- FROM unit number

*f* *Explanation*

n Unit number n (equals 1 through 6) is equipped

- Not equipped

**t**

- TO unit number

*t* *Explanation*

n Unit number n (equals 1 through 6) is equipped

- Not equipped

**e** - Number of lines in the output message segment (2 through 4)

#### **DEGROWN**

- Degrown

Degrowth of UNIT q (1 through 6) can be denied because:

**kk** - Total number of equipped ETSIs in the frame after the unit is degrown  
(00 through 30)

**ETSIS** - Expanded time slot interchangers

**ETSI** - Expanded time slot interchanger

**0qq** - ETSI number side 0

**1qq** - ETSI number side 1

0qq and 1qq identify the ETSI packs dep provisioned by this command.  
qq is the unit number (see UNIT above).

Three dashes "---" are shown if an ETSI pack is not provisioned.

**0rr** - ETSI number side 0

**1rr** - ETSI number side 1

0rr and 1rr give the ETSIs equipage status. rr is the unit number  
(see UNIT above)

Three dashes "---" are shown if an ETSI pack is not provisioned.

- The unit is already degrown (UEQD), or

- The FTU is still equipped with m FTMI's (facility terminating module interfaces), or
- The DSPU is supporting l NPC's, or
- The unit controller (UC) is in service (IS)
  
- The DS3U is still equipped with k multiplexers (MXRs) and/or the protection multiple interface unit (MIU P), or
- The DS3U is supporting at least one in-service facility line interface (FLI),

**FLI** - Facility line interface

**S** - Service

**P** - Protection

**FMT** - Formatter

**0** - Side number 0

**1** - Side number 1

**MIU** - Multiple interface unit

**MXR** - Multiplexer

**P** - Protection

**FTMI** - Facility terminating module interface

**m** - Number of FTMI's (1 through 4). Will appear if the unit is equipped as an FTU.

**NPC** - Network processing circuit

**l** - Number of NPC's in DSP unit (1 through 8). Will appear if the unit is equipped as a DSPU.

**k** - Number of MXRs (1 through 6). Will appear if the unit is equipped as a DS3U.

**c** - Number of FLI's that are in service (1 or 2). Will appear if the unit is equipped as a DS3U.

**EQD** - Equipped

**cc** - Hexadecimal condition code

**cc** *Explanation*

**00** No conditions

**03** Subject entity is in service

**4D** DSPI is in service

## **DGRTH,UNIT,FTMI**

### **DEPROVISION FACILITY TERMINATING MODULE INTERFACE**

#### **Explanation Of Command**

This message requests unequipage of a DACS II facility terminating module and its associated facility terminating module interface.

#### **Command**

[I.32321]

**DGRTH:FRM xy,SEQ ww:UNIT [q]q,FTMI d!**

#### **Completion Message**

[O.32321]

**M hh:mm:ss xy,ww n[vv] DGRTH UNIT [q]q FTMI d FC 0d 1d COMPL**

#### **Denial Message**

[O.32321.01]

**M hh:mm:ss xy,ww n[vv] DGRTH UNIT [q]q FTMI d\  
[ FC sd][ NPC n] {UEQD|EQD|IS} DNY**

[O.32321.02]

**M hh:mm:ss xy,ww n[vv] DGRTH UNIT [q]q FTMI d FC 0d 1d \  
COND cc DNY**

#### **Autonomous Message**

Not applicable.

## **Explanation Of Parameters**

---

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**FTMI** - Facility terminating module interface

**d** - FTMI number in the DACS II unit (1 through 4)

**FC** - Format converter

**s** - Side of in-service FC

| <i>s</i> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|   |                      |
|---|----------------------|
| 0 | Side 0 FC in-service |
|---|----------------------|

|   |                      |
|---|----------------------|
| 1 | Side 1 FC in-service |
|---|----------------------|

|   |                       |
|---|-----------------------|
| 2 | Both sides in-service |
|---|-----------------------|

**NPC** - Network processing circuit

**n** - Number of the NPC in the FTM that is still equipped (1 through 40)

**UEQD** - The FTMI is unequipped

**EQD** - Equipped

**IS** - In service

Format converter side (FC sd) is still in-service

**cc** - Hexadecimal condition code

| <b>cc</b> | <i>Explanation</i> |
|-----------|--------------------|
|-----------|--------------------|

|           |               |
|-----------|---------------|
| <b>00</b> | No conditions |
|-----------|---------------|

|           |                              |
|-----------|------------------------------|
| <b>03</b> | Subject entity is in service |
|-----------|------------------------------|

|           |                      |
|-----------|----------------------|
| <b>10</b> | Unit is not equipped |
|-----------|----------------------|

|           |                      |
|-----------|----------------------|
| <b>11</b> | UC is out of service |
|-----------|----------------------|

|           |                             |
|-----------|-----------------------------|
| <b>12</b> | UC is in service but failed |
|-----------|-----------------------------|

|           |                      |
|-----------|----------------------|
| <b>30</b> | Unit is not FTU type |
|-----------|----------------------|

## **DGRTH,UNIT,MIU**

### **DEPROVISION MULTIPLEXER INTERFACE UNIT**

#### **Explanation Of Command**

This message requests and reports the degrowth of one or more Multiplexer Interface Units (MIUs) in a DS3 unit.

#### **Command**

[I.32511]

**DGRTH:FRM xy,SEQ ww:UNIT [q]q,MIU c[-d]!**

#### **Completion Message**

[O.32511]

**M hh:mm:ss xy,ww n[vv] DGRTH UNIT [q]q MIU a TYPE mnxyz COMPL**

#### **Denial Message**

[O.32511.01]

**M hh:mm:ss xy,ww n[vv] DGRTH UNIT [q]q MIU a[ TYPE mnxyz] \  
COND cc DNY**

#### **Autonomous Message**

Not applicable.

## **Explanation Of Parameters**

---

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**MIU** - Multiplexer interface unit

**c, d** - The number of the MIU within the unit (P, 1 through 6)

**TYPE** - Type

**mnxyz** - Type identifier

*mnxyz Explanation*

MI100 MIU type. This is the only MIU type available.

**a** - MIU number within the range of c and d.

**cc** - Hexadecimal condition code

**cc** *Explanation*

**10** Unit is not equipped

**11** UC is out of service

**12** UC is in service but failed

**B3** MIU is already in service

**BF** MIU is not equipped

**52** The MMFG is protected

**53** The associated MMFG is under protection (for Service MIUs)

**55** Some associated NPCs are equipped

## **DGRTH,UNIT,MXR**

### **DEGROWTH MULTIPLEXER**

#### **Explanation Of Command**

This message requests and reports the degrowth of one or more Multiplexers (MXRs) and associated DS3 facilities in the service slots of a DS3 unit.

#### **Command**

[I.32501]

**DGRTH:FRM xy,SEQ ww:UNIT [q]q,MXR c[-d]!**

#### **Completion Message**

[O.32501]

**M hh:mm:ss xy,ww n[vv] DGRTH UNIT [q]q MXR a TYPE mnxyz COMPL**

#### **Denial Message**

[O.32501.01]

**M hh:mm:ss xy,ww n[vv] DGRTH UNIT [q]q MXR a[ TYPE mnxyz] \  
COND cc DNY**

#### **Autonomous Message**

Not applicable.



## Explanation Of Parameters

---

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**MXR** - Multiplexer

**c, d** - The number of the MXR within the unit ( $1 \leq c, d \leq 6$ )

**Note:** The Protection MXR is degrown along with the UNIT.

**a** - MXR number within the range of c and d

**TYPE** - The requested DS3 format that will be processed by the MXR.

**mnxyz** - The DS3 format processed by the MXR:

**mn** - the type of DS3 facility  
MX : the original R4.0 DS3 facility type supported by the  
Multiplexer (MXR) circuit pack  
EX : the enhanced R6.0 DS3 facility type supported by the  
Enhanced Multiplexer (EMXR) circuit pack  
Default is the MX type for backward compatibility.

**x** - the DS3 framing format  
1 - M13 format.(default)  
2 - C-bit parity format

**y** - not assigned (the only valid value is 0)

**z** - not assigned (the only valid value is 0)

**cc** - Hexadecimal condition code

**cc** *Explanation*

**10** Unit is not equipped

**11** UC is out of service

**12** UC is in service but failed

**9B** The MXR is not grown

**52** The MMFG is protected

**53** The associated MMFG is under protection (for Service MIUs)

**54** The MIU is already equipped

**55** Some associated NPCs are equipped

**56** The MXR is in service

## **DLT,FPKG**

### **DELETE FEATURE PACKAGE IDENTIFICATION**

#### **Explanation Of Command**

The frame administrator enters this command to change the feature package identification code. This command is used to reduce the feature package set by a single feature at a time.

**Note:** The execution of this command requires DACS II superuser privileges. The frame must be in the **MCOND** (maintenance condition) state at execution.

**WARNING:** A manual backup from RAM to Disk must be invoked prior to entering Maintenance Condition, else the command may not complete.

Because of the impact of this command on the available features, the following dialogue will be displayed by DACS II.

ARE YOU SURE?

The user must respond with an affirmative Y for the command to be executed.

#### **Command**

[I.37301]

**DLT:FRM xy,SEQ ww:FPKG nnnnnnnn!**

#### **Completion Message**

[O.37301]

**M hh:mm:ss xy,ww n[vv] DLT FPKG nnnnnnnn NEW aabbccdd \  
OLD kkttuuvv COMPL**

## Denial Message

---

[O.37301.01]

M hh:mm:ss xy,ww n[vv] DLT FPKG nnnnnnnn COND cc DNY

## Autonomous Message

---

Not applicable.

## Explanation Of Parameters

---

**FPKG** - Feature package

**nnnnnnnn**

- Feature Package number (hexadecimal)

| <i>nnnnnnnn</i> | <i>Explanation</i> |
|-----------------|--------------------|
|-----------------|--------------------|

|          |                                               |
|----------|-----------------------------------------------|
| 00000001 | DS1 Terminations (Not deletable)              |
| 00000002 | CEPT                                          |
| 00000004 | Subrate                                       |
| 00000008 | Direct SLC® 96 and Series 5 Carrier Interface |
| 00000010 | DS3 Terminations                              |
| 00000020 | Enhanced CEPT                                 |
| 00000040 | Switched Teleconferencing                     |
| 00000080 | CEF (Cannot be deleted)                       |
| 00000100 | Enhanced DS1 Performance Monitoring           |
| 00000200 | DS0/DS1 Roll                                  |
| 00000400 | AT&T Security Warning Message                 |
| 00000800 | CEPT NX64KBIT Test Access (Not deletable)     |
| 00001000 | Clear E1 Interface                            |
| 00002000 | CEPT TS0 to Non-TS0 Cross-connection          |
| 00004000 | 2MB/S Roll                                    |

**NEW** - New

**aabbccdd**

- New feature package identification code (hexadecimal)

**OLD** - Old

**kkttuuvv**

- Old feature package identification code (hexadecimal)

| kkttuuvv | Feature                                       |
|----------|-----------------------------------------------|
| 00000001 | DS1                                           |
| 00000002 | CEPT                                          |
| 00000004 | Subrate                                       |
| 00000008 | Direct SLC® 96 and Series 5 Carrier Interface |
| 00000010 | DS3 Terminations                              |
| 00000020 | Enhanced CEPT                                 |
| 00000040 | Switched Teleconferencing                     |
| 00000080 | CEF                                           |
| 00000100 | Enhanced DS1 Performance Monitoring           |
| 00000200 | DS0/DS1 Roll                                  |
| 00000400 | AT&T Security Warning Message                 |
| 00000800 | Nx64kbit Test Access                          |
| 00001000 | Clear 2MB/s Interface                         |
| 00002000 | TS0 to Non-TS0 Cross-connection               |
| 00004000 | 2MB/S Roll                                    |

In general a feature package identification code is a combination of several individual feature package numbers. To determine the individual features that make up a feature package it is necessary to decode the feature package identification code. This code is an eight digit hexadecimal number. Each hexadecimal number represents a four-bit binary number. Within this binary number each feature is associated with one particular bit. Consequently to determine the feature list from a feature package identification code it is necessary to convert each hexadecimal digit to its binary equivalent and look up the features in the list above. For example the feature package identification code 0000000F can be converted to the following binary number working from left to right one hex digit at a time.

0000 0000 0000 0000 0000 0000 0000 1111

This number contains eight binary numbers each representing one of the hexadecimal numbers in the feature package identification code 0000000F. The rightmost number of the code contains four features since there are four bits set to one. This would be decoded as follows using the table of features above.

|       | binary | hex | Feature                      |
|-------|--------|-----|------------------------------|
|       | 0001   | 1   | DS1                          |
|       | 0010   | 2   | CEPT                         |
|       | 0100   | 4   | Subrate                      |
|       | 1000   | 8   | Direct SLC                   |
| Total | 1111   | F   | (DS1 + CEPT + Subrate + SLC) |

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 96** Unit(s) OOS, and additional backup required
- 25** Invalid FPI value
- 26** Feature deactivation would leave system with core software
- 27** Disable not allowed - supports another feature
- 28** Feature is active
- 29** Feature not enabled
- 2A** Database not loaded
- 2B** Reading Feature Package Id from PMEM failed
- 2C** Writing Feature Package Id to PMEM failed
- 01** Backup required before executing this command

## **DLT,MACRO,MAP,USER**

### **DELETE MACRO**

#### **Explanation Of Command**

This command requests the deletion of a macro or alternate map from the DACS II system.

**Note:** Only the DACS II frame administrator can remove a public macro or another user's macros and maps. The names of public macros begin with the letter P.

#### **Command**

[I.37201]

```
DLT:FRM xy,SEQ ww:{MACRO <macro name>|MAP <map name>}\  
[,USER <user id>]!
```

#### **Completion Message**

[O.37201]

```
M hh:mm:ss xy,ww n[vv] DLT {MACRO <macro name>|MAP <map name>}\  
[ USER <user id>] COMPL
```

#### **Denial Message**

[O.37201.01]

```
M hh:mm:ss xy,ww n[vv] DLT {MACRO <macro name>|MAP <map name>}\  
[ USER <user id>] COND cc DNY
```

#### **Autonomous Message**

Not applicable.

## **Explanation Of Parameters**

---

### **macro name**

- Macro name (seven characters maximum length)

The name of a collection of DACS II commands executed as a group.

A macro name is a string of capitalized alphanumeric characters. There are two type of macros; public and private. A private macros is created by a user in space allocated to the user by the system administrator. Only the user that created it can execute or read (LIST) a private macro. A public macro is created by the system administrator and is executable and readable by all users. A public macro name must start with the letter "P". A private macro name must not start with the letter "P".

### **map name**

- Map name (seven characters maximum length)

The name of a collection of DACS II cross-connect commands that can be activated as a group to produce a new set of cross-connections (a new cross-connect map).

A map name is a string of capitalized alphanumeric characters.

### **user id**

- User identifier (two to eight alphabetic characters)

The user field is the user's login identifier. It is used only by the frame administrator to delete a private macro or map owned by the user specified. A user does not need to specify this information in order to delete a personally owned (private) macro or map.

### **cc** - Hexadecimal condition code

#### **cc**    *Explanation*

- 62**    File is being accessed
- 64**    File doesn't exist/can't be accessed
- D0**    Command is Frame administrator (DAX) only.
- D3**    User does not exist
- D5**    No user is logged in on the link/vc

## **DLT,NPC**

---

### **EDIT DELETE MAP**

#### **Explanation Of Command**

---

This command is only used in the open and create session of the alternate map feature. It is not intended to be used as a regular command under any circumstances.

This message is used to *delete* a single NPC, a range of NPCs, or a list of NPCs, from an alternate map.

To delete circuits from an alternate map, enter the **TCON : :FRM,TO** command (I.11001) with the DLT keyword at the end.

The only system response to this command is:

OK

Denials in response to this command are sent only to the link on which the command was input.

#### **Command**

---

#### **Nonhierarchical**

---

[I.37001]

**DLT:FRM xy,SEQ ww:NPC {[s]abc-[t]def|[s]abc[, [s]ghi]...\  
[, [t]def]]}!**



## **Hierarchical**

[I.37001]

**DLT:FRM xy,SEQ ww:NPC {uvmnp-wxkqr|uvmnp[,abcde]...[,wxkqr]}!**

## **Completion Message**

If the command is accepted by DACS II, the following input acknowledgement is output.

**OK**

## **Denial Message**

Not applicable.

## **Autonomous Message**

Not applicable.

## **Explanation Of Parameters**

**[s]abc, [t]def, [s]ghi**

- The 3- or 4-digit non-hierarchical NPC numbers

If NPC numbers are expressed in three digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp, wkxqr, abcde**

- Hierarchical NPC number

**uv, wk, ab**

- Unit number

**m, x, c**

- Module number

**np, qr, de**

- NPC number

The values are:

DE type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**cc** - Hexadecimal condition code

**cc** *Explanation*

**7A** The NPC to delete has not been previously added to map

## **DLT,RT,DL,DGA,DGB,DGC,DGD,DGP**

**DELETE {RT|DL}**

### **Explanation Of Command**

This command is used to delete the association of a network processing circuit (NPC) number with a SLC<sup>®</sup> carrier remote terminal (RT) or digital carrier line unit (DCLU) bank's digroup name. Once all of digroups of a specific bank are deleted, the bank's identification number and its mode of operation will also be deleted.

Note that at least one digroup name and NPC number must be specified on input.

For the denial message, the optional A, B, C, D, or P character will be shown to indicate the digroup that causes the denial.

### **Command**

#### **Nonhierarchical**

[I.37211]

```
DLT:FRM xy,SEQ ww:{RT|DL} ffff[,DGA [s]aaa][,DGB [s]bbb]\  
[,DGC [s]ccc][,DGD [s]ddd][,DGP [s]ppp]!
```

#### **Hierarchical**

[I.37211]

```
DLT:FRM xy,SEQ ww:{RT|DL} ffff\  
[,DGA uvjab][,DGB uvkcd][,DGC uvlef][,DGD uvmgh]\  
[,DGP uvjpr]!
```

## **Completion Message**

---

### **Nonhierarchical**

---

[O.37211]

M hh:mm:ss xy,ww DLT {RT|DL} ffff 2 LN MSG:  
[DGA [s]aaa][ DGB [s]bbb][ DGC [s]ccc][ DGD [s]ddd]\  
[ DGP [s]ppp] COMPL

### **Hierarchical**

---

[O.37211]

M hh:mm:ss xy,ww DLT {RT|DL} ffff 2 LN MSG:  
[DGA uvjab][ DGB uvkcd][ DGC uvlef][ DGD uvmgh]\  
[ DGP uvjpr] COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.37211.01]

M hh:mm:ss xy,ww DLT {RT|DL} ffff 2 LN MSG:  
[DGA [s]aaa][ DGB [s]bbb][ DGC [s]ccc][ DGD [s]ddd]\  
[ DGP [s]ppp][ {A|B|C|D|P}] COND cc DNY

### **Hierarchical**

---

[O.37211.01]

M hh:mm:ss xy,ww DLT {RT|DL} ffff 2 LN MSG:  
[DGA uvjab][ DGB uvkcd][ DGC uvlef][ DGD uvmgh][ DGP uvjpr]  
[ {A|B|C|D|P}] COND cc DNY

## **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**RT** - SLC® Carrier Remote Terminal

**DL** - Digital Carrier Line Unit

**ffff** - Bank identification number (0000 to 9999 inclusive)

**DGA** - SLC Carrier digroup A

**DGB** - SLC Carrier digroup B

**DGC** - SLC Carrier digroup C

**DGD** - SLC Carrier digroup D

**DGP** - SLC Carrier digroup P

**[s]aaa** - The 3- or 4-digit nonhierarchical DGA NPC number

**[s]bbb** - The 3- or 4-digit nonhierarchical DGB NPC number

**[s]ccc** - The 3- or 4-digit nonhierarchical DGC NPC number

**[s]ddd** - The 3- or 4-digit nonhierarchical DGD NPC number

**[s]ppp** - The 3- or 4-digit nonhierarchical DGP NPC number

If NPC numbers are expressed in three digits, the valid values are:

DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

**uv** - Unit number

**j, k, l, m**

- Module number within the unit

**ab** - Digroup A (DGA) NPC number within the module

**cd** - Digroup B (DGB) NPC number within the module

**ef** - Digroup C (DGC) NPC number within the module

**gh** - Digroup D (DGD) NPC number within the module

**pr** - Digroup P (DGP) NPC number within the module

The allowable values are presented below:

DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

**A, B, C, D, P**

- Digroup A, B, C, D, or P.

This is used to indicate the digroup that caused the denial.

**cc** - Hexadecimal condition code

**cc** *Explanation*

**03** Subject entity is in service

**10** Unit is not equipped

**11** UC is out of service

**12** UC is in service but failed

**15** NPC is unequipped

**35** NPC has active circuit

**6A** NPC type is not DS type

**78** Protection switch process failed

**7E** Bank id number not found

**7F** NPC is not added

**80** NPC number and bank id don't match

**81** NPC number and digroup name don't match

**87** DGP is protecting a primary digroup

**cc**    *Explanation*

- 89**    Can't delete because not all associated NPCs of the RT are entered
- 8B**    Digroup name and bank id don't match
- 8C**    Digroup is protected
- 93**    All digroups not out of service
- BC**    DGA and DGB must be specified together in the command
- BD**    DGC and DGD must be specified together in the command
- F9**    Mate NPC (DGA/DGP) is in service
- 59**    Number of DGPs on each unit is limited to 32
- 69**    Use of this NPC is RESERVED for SLC 96 MD 1
- 02**    Manual Pending is Active



## **DLT,USER**

---

### **DELETE USER**

#### **Explanation Of Command**

---

This command requests the deletion of **<user id>** from the DACS II system.

Output from this command is sent only to the link on which the command was input.

#### **⇒ NOTE:**

**Note:** This command may be used only by the DACS II frame administrator. It may be executed on any administrative link.

#### **Command**

---

[I.37101]

**DLT:FRM xy,SEQ ww:USER <user id>!**

#### **Completion Message**

---

[O.37101]

**M hh:mm:ss xy,ww n[vv] DLT USER <user id> COMPL**

#### **Denial Message**

---

[O.37101.01]

**M hh:mm:ss xy,ww n[vv] DLT USER <user id> COND cc DNY**

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**USER** - User

**user id**

- User identifier

User login identification (two to eight alphabetic characters)

**cc** - Hexadecimal condition code

**cc** *Explanation*

**D0** Command is Frame administrator (DAX) only.

**D3** User does not exist

**D8** Cannot remove Frame administrator

**D9** User has logged in somewhere

**DB** User still owns files

---

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---

## **EBX — EXC**

---

This section documents the commands **EBX** through **EXC**.

## **EBX,STARTUP,STF,ATP**

### **EXPANDED BUS EXTENDER STARTUP**

#### **Explanation Of Command**

This message reports that the expanded bus extender has initialized itself and has performed self-diagnostics. The results of these diagnostics are reported. For all tests passed, no action is required.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01272]

**EBX STARTUP {STF|ATP}**

### **Explanation Of Parameters**

---

**EBX** - Expanded bus extender

**STARTUP**

- Startup

Indicates initialization

**STF** - Some tests failed

**ATP** - All tests passed

## **ED,CRET,MAP,PIC**

### **CREATE PICTURE ALTERNATE MAP**

#### **Explanation Of Command**

This command takes a **PIC** (picture) of currently-implemented cross-connections and stores them in the **new map name**. **reference map name** is the name of the map that contains the desired list of cross-connections.

**one to seven characters long.**

Output from this command is sent only to the link on which the command was input.

#### **Command**

[I.19031]

**ED:FRM xy,SEQ ww:CRET,MAP <new map name>\  
,PIC <reference map name>!**

#### **Completion Message**

#### **Nonhierarchical**

[O.19031]

**M hh:mm:ss xy,ww n[vv] ED CRET MAP <new map name> \  
PIC <reference map name>  
[ NPC [s]abc] COND kk COMPL**

## **Hierarchical**

---

[O.19031]

**M** hh:mm:ss xy,ww n[vv] **ED CRET MAP** <new map name> \  
**PIC** <reference map name> [ **NPC** uvmnp] **COND** kk **COMPL**

## **Denial Message**

---

[O.19031.01]

**M** hh:mm:ss xy,ww n[vv] **ED CRET MAP** <new map name> \  
**PIC** <reference map name> **COND** cc **DNY**

## **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

---

**CRET** - Create

**MAP** - Map

new map name

- The new alternate map to be created by this message

"new map name" is a string of capitalized alphanumeric characters.  
The first character must be an alphabetic character. The maximum  
length of a map name is seven characters.

**PIC** - Picture

reference map name

- The existing alternate map

"reference map name" is a string of capitalized alphanumeric characters.  
The first character must be an alphabetic character. The maximum  
length of a map name is seven characters.

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

This number identifies the first NPC that contains either a  
non-two-way, two-point cross-connection, or a cross-connection with a  
termination on an NPC not found in the reference alternate map.

If NPC numbers are expressed in three digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |



If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

This number identifies the first NPC that contains either a non-two-way, two-point cross-connection, or a cross-connection with a termination on an NPC not found in reference alternate map.

DE type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                                 |
|-----------|-------------------------------------------------|
| <b>00</b> | No conditions                                   |
| <b>60</b> | User macro/map space is full                    |
| <b>61</b> | System macro/map space is full                  |
| <b>62</b> | File is being accessed                          |
| <b>63</b> | File already exists                             |
| <b>70</b> | Some circuits not activated,cleared or pictured |
| <b>71</b> | The reference map does not exist                |
| <b>D5</b> | No user is logged in on the link/vc             |

## **ED,MACRO,MAP**

### **CREATE OR EDIT A MACRO OR MAP**

#### **Explanation Of Command**

This command is dual purpose. It can be used to create a new macro or alternate map or to edit an existing macro or map. A macro is a collection of DACS II commands that can be executed as a group by a single command. A map is a collection of DACS II cross-connect commands that can be activated as a group by a single command to create a new cross-connect map.

Once a macro has been created, and is free of errors, it can be executed repeatedly. For commonly used command sequences this saves a lot of typing, speeds execution, and assures the user of repeatability. Similarly a map, once created, can be repeatedly activated. However, prior to each activation of a map the information specified in the map must be edited to create a new map. On the other hand the information in a macro can be changed, without editing, when the command is executed. The new information is inserted into the command line and replaces information within the macro at execution time.

The commands used in the macro, the macro commands, will always be executed in the order they are listed in the macro. However, because the commands can use variables as well as constants, the information within the macro can vary with each execution. A command within the macro that addresses a given NPC can be made to address a different NPC the next time the macro is executed. This is done by replacing the constant, representing the NPC number, listed in the macro command with a variable. Many other command parameters can be changed from execution to execution by the use of variables in the macro commands.

Consider the private macro named "DEMO" below. Some elements of these macro commands have been omitted in order to focus on the use of variables.

```
TDIS::FROM 00101,TO 00301,STOP!OK
TCON::FROM 00101,TO 00501!OK
TCON::FROM 00102,TO 00502!OK
TCON::FROM 00103,TO 00503!OK
UTL::QRY,CMAP 001!OK
```

This macro will always disconnect, connect, and query the same NPCs. If DEMO were written as follows, using variables, the NPCs affected could be specified each time the macro was executed without having to reenter the macro. A macro written in this manner is referred to as a universal macro. This particular macro would be even more universal if the channel numbers were represented by variables.

```
TDIS::FROM #0101,TO 00301,STOP!OK
TCON::FROM #0101,TO #0201!OK
TCON::FROM #0102,TO #0202!OK
TCON::FROM #0103,TO #0203!OK
UTL::QRY,CMAP #01!OK
```

Variables have replaced some of the constants in macro DEMO. NPC number 001 has been replaced with variable #01 and NPC number 005 has been replaced with variable #02. The numbers in these variable names refer to the position of the replacement in the command used to execute the macro. To execute this macro replacing #01 with 020 and #02 with 040 we would enter the following command.

```
EXC::MACRO DEMO,(020,040)!
```

The variables used in the macro commands of macro DEMO are replaced, upon execution of this command, by parameters included in the command. The first parameter replaces variable #01 and the second parameter replaces #02. After variable replacement macro DEMO would look as follows.

```
TDIS::FROM 02001,TO 00301,STOP!OK
TCON::FROM 02001,TO 04001!OK
TCON::FROM 02002,TO 04002!OK
TCON::FROM 02003,TO 04003!OK
UTL::QRY,CMAP 020!OK
```

Variables may be used for any macro command parameter except action verbs and punctuation. The number of variables used in a macro is limited to 10. A variable may be used wherever its value is needed, that is, it is not restricted to an NPC number just because it was used for that purpose at some other point in the macro. If the user wished to address NPC number 003 and channel 003 the variable #01 with value 003 could be used for both the NPC number and the channel number. The macro command would look as follows.

TCON::FROM #01#01,...!

At execution time this would translate to the following.

TCON::FROM 003003,...!

**⇒ NOTE:**

To represent hierarchical NPC numbers a variable must be used for each part (unit, module, NPC) of the NPC number. A macro expecting a hierarchical format parameter should not be executed with a nonhierarchical format parameter.

NPC 01101 would be represented in a macro command with variables #01, #02, and #03 as follows.

UTL::QRY,CMAP #01#02#03!

**⚠ WARNING:**

*Any command prompting "Are You Sure?" which is accepted as a macro command will always have the "No" answer to the question.*

The system responds with "OK" when the ED::MAP command is entered.

The system responds with LINE and SAVE messages, as shown below, when the ED-MACRO command is entered.

[O.19071]  
... LINE <line pointer> TOTAL <line total> COMPL

[O.19081]

... **SAVE** <macro name> **SPACE** sss **USED** uuu **COMPL**

A macro session is the period between entering the command to create a macro and entering the command to exit the macro. A line pointer is maintained by the system during the session to mark the position of the current line within the macro. As a line is added to the macro the line pointer moves down a line; tracking the position of the current line. The **LINE** command is used to determine the current line pointer value and the total number of lines currently in the macro.

The **SAVE** command is used during a macro session to save the current set of macro commands in the macro represented in the message by "macro name." The macro name is chosen by the user.

The completion messages correspond to the frame response when **END** or **QTEND** is entered after completion of editing or creating a macro. The **END** command saves all the changes before ending (exiting) a macro session. The **QTEND** command ends the macro session without saving the changes.

Output from this command is sent only to the link on which the command was input.

### **Command**

---

[I.19001]

**ED:FRM xy,SEQ ww:{MACRO <macro name>|MAP <map name>}!**

### **Completion Message**

---

[O.19001]

**M hh:mm:ss xy,ww n[vv] ED {MACRO <macro name>|MAP <map name>}\**  
**[ COND cc] COMPL**

[O.19002]

**M hh:mm:ss xy,ww n[vv] ED {MACRO <macro name>|MAP <map name>} \**  
**QTEND[ COND cc] COMPL**

### **Denial Message**

---

[O.19001.01]

**M hh:mm:ss xy,ww n[vv] ED {MACRO <macro name>|MAP <map name>} \**  
**COND cc DNY**

## **Autonomous Message**

---

[O.19002]

**I** hh:mm:ss xy,ww n[vv] **ED** {**MACRO** <macro name>|**MAP** <map name>} \  
**QTEND**[ **COND** cc] **COMPL**

## **Explanation Of Parameters**

---

**MACRO** - Macro

### **macro name**

- Macro name (seven characters maximum length)

The name of a collection of DACS II commands executed as a group.

A macro name is a string of capitalized alphanumeric characters. There are two type of macros; public and private. A private macros is created by a user in space allocated to the user by the system administrator. Only the user that created it can execute or read (LIST) a private macro. A public macro is created by the system administrator and is executable and readable by all users. A public macro name must start with the letter "P". A private macro name must not start with the letter "P".

**MAP** - Map

### **map name**

- Map name (seven characters maximum length)

The name of a collection of DACS II cross-connect commands that can be activated as a group to produce a new set of cross-connections (a new cross-connect map).

A map name is a string of capitalized alphanumeric characters.

**QTEND** - Quit end

Quit to end a macro or map session without saving any changes to the macro or map.

**COND** - Condition

**cc** - Hexadecimal condition code

**cc Explanation**

|    |                                                            |
|----|------------------------------------------------------------|
| 00 | No conditions                                              |
| 00 | No conditions                                              |
| 60 | User macro/map space is full                               |
| 60 | User macro/map space is full                               |
| 61 | System macro/map space is full                             |
| 62 | File is being accessed                                     |
| 65 | Command invalid while backup in progress                   |
| 65 | Command invalid while backup in progress                   |
| 66 | Map/macro file write deferred until backup is completed    |
| 67 | User logged off during session                             |
| 68 | Incorrect language/addressing mode                         |
| 6F | The session is terminated due to maintenance operation     |
| 6F | The session is terminated due to maintenance operation     |
| 7C | Logical conflicts found in the map                         |
| 7D | Can't start new session - previous session still verifying |
| D0 | Command is Frame administrator (DAX) only.                 |
| D5 | No user is logged in on the link/vc                        |
| 6E | No edit session active                                     |
| 6C | File is empty                                              |
| 6C | File is empty                                              |



## **EMTC,STARTUP,STF,ATP**

### **EXPANDED MAINTENANCE STARTUP**

#### **Explanation Of Command**

This message reports that the expanded maintenance circuit has initialized itself and has performed self-diagnostics. The results of these diagnostics are reported. For all tests passed, no action is required.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01282]

**EMTC STARTUP {STF|ATP}**

### **Explanation Of Parameters**

---

**EMTC** - Expanded maintenance circuit

**STF** - Some tests failed

**ATP** - All tests passed

## **ERR,CMD,ABT,TN,STOPPED**

### **INPUT DENIAL**

#### **Explanation Of Command**

This message is output by DACS II when a task indicated by the transaction number has been autonomously aborted.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01121]

A hh:mm:ss xy,ww    ERR CMD ABT [TN abcd]    e LN MSG:  
First 70 characters of input message.  
Remaining text of input message STOPPED

### **Explanation Of Parameters**

---

**ERR** - Error recovery

**CMD** - Command

**ABT** - Abort

**TN** - Transaction

**abcd** - Transaction number

**e** - Number of lines in the message

## **ERR,ESR,ANALYSIS,REPORT,EVENT**

### **ERROR RECOVERY ESR ANALYSIS REPORT**

#### **Explanation Of Command**

This message outputs a list of circuit packs associated with a series of alarm messages identified by the EVENT number. One of the circuit packs listed may be at fault. The most likely faulty pack is at the top of the list. Only the first circuit pack on the list will be removed. This message will not be output if a single circuit pack is implicated.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01391]

```
I hh:mm:ss xy,ww  ERR ESR ANALYSIS REPORT EVENT eeee  4 LN MSG:
<action> <circuit identifier>
<action> <circuit identifier>
<action> <circuit identifier> COMPL
```

## **Explanation Of Parameters**

---

**ERR** - Error recovery

**ESR** - Error source register

**ANALYSIS**  
- Analysis

**REPORT** - Report

**EVENT** - Event

**eeee** - Event number

The event number can be specified in UTL::QRY, ERR to retrieve the contents of the DACS II error recovery log file which contains the data for this error recovery event.

**action** - Identifies autonomous action attempted on the circuit pack. Available actions are

*action Explanation*

RMV Request was made to remove circuit pack from service and run a diagnostic

--- Pack is listed for information only

**circuit identifier**

- Circuit pack type and identification.

The available circuit identifiers are listed below:

circuit identifier

SYNC s  
SYNC s TLI m  
CCNI s  
CCB sf  
TSI sft  
CCI s  
ETSI sqq  
BTS s  
UC [q]q  
UNIT [q]q UBX  
UNIT [q]q FC sb  
UNIT [q]q FTMI b  
UNIT [q]q DSPi  
UNIT [q]q MXR n DEV devc  
UNIT [q]q MIU i  
UNIT [q]q FLI d  
UNIT [q]q FMT k  
UNIT [q]q MMFG y  
NPC [s]abc[-[t]def][SIDE s]  
NPC uvmnp[-wxkqr][SIDE s]

## **ERR,ESR,CCB,TN,EVENT,COND**

### **ERROR RECOVERY**

#### **Explanation Of Command**

This message indicates that error recovery was called to handle an error occurring in the cross-connect buffer.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01351]

I hh:mm:ss xy,ww ERR [ESR] CCB sf TN dddd EVENT eeee \  
2 LN MSG:  
<error analysis data bytes> COND cc COMPL



### **Explanation Of Parameters**

---

**ERR** - Error recovery

**ESR** - Error Source Register

The ESR keyword is not output if the register contents cannot be read.

**CCB** - Cross-connect Buffer

**s** - Cross-connect side (0 or 1)

**f** - Unit (1 through 6)

**TN** - Transaction

**dddd** - Transaction number

**EVENT** - Event

**eeee** - Event number

#### **error analysis data bytes**

- Data used to analyze the cause of an error.

Eight bytes are output. These bytes are labeled "byte 0", "byte 1", etc, below.

**byte 0** - ESR0 (Error Source Register 0) in the CCB

**byte 1** - ESR1 (Error Source Register 1) in the CCB

**byte 2** - ESR2 (Error Source Register 2) in the CCB

**byte 3** - CCNI ESR0

**byte 4** - CCNI ESR1

**byte 5** - CCNI ESR2

**byte 6** - CCNI ESR3

**byte 7** - CCNI ESR4

**cc** - Hexadecimal condition code

#### **cc**    *Explanation*

**A0**    CCB packid error, wrong pack, can't read pack

**A1**    CCB sync pulse error

**A2**    CCB clock error

**A3**    CCB input port alarm error

**A4**    CCB zero bit is stuck at 1

**A5**    Corresponding CCNI bit is stuck

## **ERR,ESR,CCI,TN,EVENT,COND**

### **ERROR RECOVERY CCI**

#### **Explanation Of Command**

This message indicates that DACS II detected an alarm occurring in the clock and control interface.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01354]

```
I hh:mm:ss xy,ww  ERR[ ESR] CCI s TN dddd EVENT eeee  \  
2 LN MSG:  
wd01 wd02 wd03 wd04 wd05 wd06 wd07 wd08 wd09 wd10 wd11 \  
wd12 COND cc COMPL
```

## Explanation Of Parameters

**ERR** - Error recovery

**ESR** - Error source register

The ESR keyword is not output if the register contents cannot be read.

**CCI** - Clock control interface

**s** - Cross-connect side number (0 or 1)

**TN** - Transaction

**dddd** - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the content of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

**EVENT** - Event

**eeee** - Event number

The event number can be specified in UTL::QRY, ERR to retrieve the content of the DACS II error recovery log file which contains the data of this error recovery event.

**wd01,**  
**wd02,**

...,

**wd12** - Word 1 through 12

0 to 12 words of hexadecimal raw error data for internal use. Each word is four hexadecimal digits.

*wdxx Explanation*

|      |                                                         |
|------|---------------------------------------------------------|
| wd01 | System Status Register                                  |
| wd02 | Clock Control Interface (CCI) Status Register           |
| wd03 | CCI Extended Time Slot Interchange (ETSI) ESR0 Register |
| wd04 | CCI ETSI ESR1 Register                                  |
| wd05 | CCI ETSI ESR2 Register                                  |
| wd06 | CCI ETSI ESR3 Register                                  |
| wd07 | CCI Status Bus Register                                 |
| wd08 | CCI Exercise Register                                   |
| wd09 | CCI System Mask Register                                |
| wd10 | CCI Mask Register                                       |
| wd11 | CCI ETSI Mask Register                                  |
| wd12 | Not used (= 0000)                                       |

**COND** - Condition

**cc** - Hexadecimal condition code

**cc**    *Explanation*

- 01**    CCI pack is not present
- 02**    Can't communicate to CCI pack(incorrect version number)
- 03**    CCI pack's summary is set but has no errors
- 04**    CCIERR bit is stuck in system status reg
- 05**    TSIERR bit is stuck in system status reg
- 06**    PUERR bit is stuck in system status reg
- 07**    Bus Terminator pack is not present
- 08**    The 32 MHz clock is out of lock
- 09**    CCI 240 sync is misaligned with frame sync
- 0A**    CCI loss of 240 Frame Sync
- 0B**    CCI loss of 8 KHz Frame Sync
- 0C**    CCI detected Address Parity error
- 0D**    CCI detected low byte data parity error
- 0E**    CCI detected high byte data parity error
- 0F**    CCI -5.2 power supply has failed
- 10**    CCI detected Bus Status Parity error
- 11**    CCI Peripheral Unit Alarm
- 12**    SYNC summary is set on CCI circuit pack

## **ERR,ESR,CCNI,TN,EVENT,COND**

### **ERROR RECOVERY**

#### **Explanation Of Command**

This message indicates that DACS II detected an alarm occurring in the cross-connect network interface).

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01352]

I hh:mm:ss xy,ww ERR [ESR] CCNI s TN dddd EVENT eeee 2 LN MSG:  
<reg0> <reg1> <reg2> <reg3> <reg4> \  
<emr0> <emr1> <emr2> <emr3> <emr4> COND cc COMPL

## Explanation Of Parameters

---

- ERR** - Error recovery
- ESR** - Error Status Register.  
The ESR keyword is not output if the register contents cannot be read.
- CCNI** - Cross-connect network interface
- s** - Cross-connect side (0 or 1)
- TN** - Transaction
- dddd** - Transaction number
- EVENT** - Event
- eeee** - Event number
- regn** - Device register n (n = 0 through 4)  
A bit set to "1" in these registers indicates the alarming circuit pack or a parity error.

### CCNI s Error Source Register Bit Definitions

- reg0** - Error Source Register 0
- | Bit | Condition                                  |
|-----|--------------------------------------------|
| 15  | Time Slot Interchange (TSI) 43 is alarming |
| 14  | TSI 33 is alarming                         |
| 13  | TSI 23 is alarming                         |
| 12  | TSI 13 is alarming                         |
| 11  | TSI 62 is alarming                         |
| 10  | TSI 52 is alarming                         |
| 09  | TSI 42 is alarming                         |
| 08  | TSI 32 is alarming                         |
| 07  | TSI 22 is alarming                         |
| 06  | TSI 12 is alarming                         |
| 05  | TSI 61 is alarming                         |
| 04  | TSI 51 is alarming                         |
| 03  | TSI 41 is alarming                         |
| 02  | TSI 31 is alarming                         |
| 01  | TSI 21 is alarming                         |
| 00  | TSI 11 is alarming                         |

**reg1** - Error Source Register 1

| Bit | Condition          |
|-----|--------------------|
| 15  | TSI 26 is alarming |
| 14  | TSI 16 is alarming |
| 13  | TSI 65 is alarming |
| 12  | TSI 55 is alarming |
| 11  | TSI 45 is alarming |
| 10  | TSI 35 is alarming |
| 09  | TSI 25 is alarming |
| 08  | TSI 15 is alarming |
| 07  | TSI 64 is alarming |
| 06  | TSI 54 is alarming |
| 05  | TSI 44 is alarming |
| 04  | TSI 34 is alarming |
| 03  | TSI 24 is alarming |
| 02  | TSI 14 is alarming |
| 01  | TSI 63 is alarming |
| 00  | TSI 53 is alarming |

**reg2** - Error Source Register 2

| Bit | Condition                                                 |
|-----|-----------------------------------------------------------|
| 15  | Facility Terminating Module (FTM) 4 of Unit 3 is alarming |
| 14  | FTM 3 of Unit 3 is alarming                               |
| 13  | FTM 2 of Unit 3 is alarming                               |
| 12  | FTM 1 of Unit 3 is alarming                               |
| 11  | FTM 4 of Unit 2 is alarming                               |
| 10  | FTM 3 of Unit 2 is alarming                               |
| 09  | FTM 2 of Unit 2 is alarming                               |
| 08  | FTM 1 of Unit 2 is alarming                               |
| 07  | FTM 4 of Unit 1 is alarming                               |
| 06  | FTM 3 of Unit 1 is alarming                               |
| 05  | FTM 2 of Unit 1 is alarming                               |
| 04  | FTM 1 of Unit 1 is alarming                               |
| 03  | TSI 66 is alarming                                        |
| 02  | TSI 56 is alarming                                        |
| 01  | TSI 46 is alarming                                        |
| 00  | TSI 36 is alarming                                        |

**reg3** - Error Source Register 3

| Bit | Condition                                |
|-----|------------------------------------------|
| 15  | Cross-Connect Buffer (CCB) 4 is alarming |
| 14  | CCB 3 is alarming                        |
| 13  | CCB 2 is alarming                        |
| 12  | CCB 1 is alarming                        |
| 11  | FTM 4 of Unit 6 is alarming              |
| 10  | FTM 3 of Unit 6 is alarming              |
| 09  | FTM 2 of Unit 6 is alarming              |
| 08  | FTM 1 of Unit 6 is alarming              |
| 07  | FTM 4 of Unit 5 is alarming              |
| 06  | FTM 3 of Unit 5 is alarming              |
| 05  | FTM 2 of Unit 5 is alarming              |
| 04  | FTM 1 of Unit 5 is alarming              |
| 03  | FTM 4 of Unit 4 is alarming              |
| 02  | FTM 3 of Unit 4 is alarming              |
| 01  | FTM 2 of Unit 4 is alarming              |
| 00  | FTM 1 of Unit 4 is alarming              |

**reg4** - Error Source Register 4

| Bit   | Condition                                                             |
|-------|-----------------------------------------------------------------------|
| 15-08 | Not used                                                              |
| 07    | Cross-Connect Network Interface (CCNI) autonomous switch enable error |
| 06    | CCNI high byte data parity error                                      |
| 05    | CCNI low byte data parity error                                       |
| 04    | CCNI address bus parity error                                         |
| 03    | Synchronizer (SYNC) is alarming                                       |
| 02    | Cross-Connect Buffer (CCB) 6 is alarming                              |
| 01    | CCB 5 is alarming                                                     |

**emrn** - Error Mask Register n

A bit set to "1" in these registers indicates the alarming circuit pack or a parity error.



CCNI s Error Mask Register Bit Definitions

**emr0** - Error Mask Register 0

| Bit | Condition                                             |
|-----|-------------------------------------------------------|
| 15  | Errors from Time Slot Interchange (TSI) 43 are masked |
| 14  | Errors from TSI 33 are masked                         |
| 13  | Errors from TSI 23 are masked                         |
| 12  | Errors from TSI 13 are masked                         |
| 11  | Errors from TSI 62 are masked                         |
| 10  | Errors from TSI 52 are masked                         |
| 09  | Errors from TSI 42 are masked                         |
| 08  | Errors from TSI 32 are masked                         |
| 07  | Errors from TSI 22 are masked                         |
| 06  | Errors from TSI 12 are masked                         |
| 05  | Errors from TSI 61 are masked                         |
| 04  | Errors from TSI 51 are masked                         |
| 03  | Errors from TSI 41 are masked                         |
| 02  | Errors from TSI 31 are masked                         |
| 01  | Errors from TSI 21 are masked                         |
| 00  | Errors from TSI 11 are masked                         |

**emr1** - Error Mask Register 1

| Bit | Condition                     |
|-----|-------------------------------|
| 15  | Errors from TSI 26 are masked |
| 14  | Errors from TSI 16 are masked |
| 13  | Errors from TSI 65 are masked |
| 12  | Errors from TSI 55 are masked |
| 11  | Errors from TSI 45 are masked |
| 10  | Errors from TSI 35 are masked |
| 09  | Errors from TSI 25 are masked |
| 08  | Errors from TSI 15 are masked |
| 07  | Errors from TSI 64 are masked |
| 06  | Errors from TSI 54 are masked |
| 05  | Errors from TSI 44 are masked |
| 04  | Errors from TSI 34 are masked |
| 03  | Errors from TSI 24 are masked |
| 02  | Errors from TSI 14 are masked |
| 01  | Errors from TSI 63 are masked |
| 00  | Errors from TSI 53 are masked |

**emr2** - Error Mask Register 2

| Bit | Condition                                                            |
|-----|----------------------------------------------------------------------|
| 15  | Errors from Facility Terminating Module (FTM) 4 of Unit 3 are masked |
| 14  | Errors from FTM 3 of Unit 3 are masked                               |
| 13  | Errors from FTM 2 of Unit 3 are masked                               |
| 12  | Errors from FTM 1 of Unit 3 are masked                               |
| 11  | Errors from FTM 4 of Unit 2 are masked                               |
| 10  | Errors from FTM 3 of Unit 2 are masked                               |
| 09  | Errors from FTM 2 of Unit 2 are masked                               |
| 08  | Errors from FTM 1 of Unit 2 are masked                               |
| 07  | Errors from FTM 4 of Unit 1 are masked                               |
| 06  | Errors from FTM 3 of Unit 1 are masked                               |
| 05  | Errors from FTM 2 of Unit 1 are masked                               |
| 04  | Errors from FTM 1 of Unit 1 are masked                               |
| 03  | Errors from TSI 66 are masked                                        |
| 02  | Errors from TSI 56 are masked                                        |
| 01  | Errors from TSI 46 are masked                                        |
| 00  | Errors from TSI 36 are masked                                        |

**emr3** - Error Mask Register 3

| Bit | Condition                                            |
|-----|------------------------------------------------------|
| 15  | Errors from Cross-Connect Buffer (CCB) 04 are masked |
| 14  | Errors from CCB 03 are masked                        |
| 13  | Errors from CCB 02 are masked                        |
| 12  | Errors from CCB 01 are masked                        |
| 11  | Errors from FTM 4 of Unit 6 are masked               |
| 10  | Errors from FTM 3 of Unit 6 are masked               |
| 09  | Errors from FTM 2 of Unit 6 are masked               |
| 08  | Errors from FTM 1 of Unit 6 are masked               |
| 07  | Errors from FTM 4 of Unit 5 are masked               |
| 06  | Errors from FTM 3 of Unit 5 are masked               |
| 05  | Errors from FTM 2 of Unit 5 are masked               |
| 04  | Errors from FTM 1 of Unit 5 are masked               |
| 03  | Errors from FTM 4 of Unit 4 are masked               |
| 02  | Errors from FTM 3 of Unit 4 are masked               |
| 01  | Errors from FTM 2 of Unit 4 are masked               |
| 00  | Errors from FTM 1 of Unit 4 are masked               |

**emr4** - Error Mask Register 4

| Bit   | Condition                                           |
|-------|-----------------------------------------------------|
| 15-08 | Not used                                            |
| 07    | Address parity errors are masked (ASEM)             |
| 06    | Parity error in the BSR register is masked          |
| 05    | High data byte parity error is masked               |
| 04    | Low data byte parity error is masked                |
| 03    | Address parity error (ADEM) is masked               |
| 02    | Synchronizer error summary bit is masked            |
| 01    | Errors from Cross-Connect Buffer (CCB) 6 are masked |
| 00    | Errors from CCB 5 are masked                        |

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                                       |
|-----------|-------------------------------------------------------|
| <b>90</b> | CCNI access error (cannot access pack)                |
| <b>91</b> | High data byte bus parity error                       |
| <b>92</b> | Low data byte bus parity error                        |
| <b>93</b> | Address bus parity error                              |
| <b>94</b> | Autonomous switch enable error                        |
| <b>95</b> | Bus status register parity error                      |
| <b>96</b> | CCNI stuck register bit, summary set, no other alarms |

---

## **ERR,ESR,ETSI,TN,EVENT,COND**

### **ERROR RECOVERY ETSI**

#### **Explanation Of Command**

This message reports an alarm on a extended time slot interchanger.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01355]

```
I hh:mm:ss xy,ww  ERR[ ESR] ETSI sqq TN dddd EVENT eeee  \  
2 LN MSG:  
wd01 wd02 wd03 wd04 wd05 wd06 wd07 wd08 wd09 wd10 wd11 \  
wd12 COND cc COMPL
```

### **Explanation Of Parameters**

---

**ERR** - Error recovery

**ESR** - Error source register

The ESR keyword is not output if the register contents cannot be read.

**ETSI** - Expanded time slot interchanger (ETSI)

**sqq** - ETSI identification

**s** - Cross-connect side (0 or 1)

**qq** - Unit number (01 through 16)

**TN** - Transaction

**dddd** - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

**EVENT** - Event

**eeee** - Event number

The event number can be specified in UTL::QRY, ERR to retrieve the contents of the DACS II error recovery log file which contains the data for this error recovery event.

**wd01,**

**wd02,**

...,

**wd12** - Word 1 through 12

0 to 12 words of four-digit hexadecimal raw error data for internal use.

**wd01** - Circuit Pack Summary Register

**wd02** - Receive MDX Status Register

**wd03** - Transmit MDX Status Register

**wd04** - Control RAM Status Register

**wd05** - Control RAM Port Alarm Register

**wd06** - Control RAM Data RAM Alarm Register

**wd07** - Receive MDX Mask Register

**wd08** - Transmit MDX Mask Register

**wd09** - CCI ETSI Error Source Register 0

**wd10** - CCI ETSI Error Source Register 1

**wd11** - CCI ETSI Error Source Register 2

**wd12** - CCI ETSI Error Source Register 3

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 20** ETSI pack is not present
- 21** Can't communicate to ETSI pack (incorrect version number)
- 22** ETSI pack's summary is set on CCI but has no errors
- 23** ETSI loss of 32.768 MHz clock
- 24** ETSI loss of 240 frame sync
- 25** ETSI Rcv MDX summary stuck bit
- 26** ETSI control RAM summary stuck bit
- 27** ETSI TX MDX summary stuck bit
- 28** ETSI loss of Vdd (3.3v) power
- 29** Peripheral unit port alarm (RCV MDX)
- 2A** Receive MDX data source time slot parity error
- 2B** Receive MDX sync error
- 2C** Receive MDX address parity error
- 2D** Receive MDX write data parity error
- 2F** Receive MDX can't be accessed (incorrect chip Id)
- 30** Transmit MDX data parity error
- 31** Transmit MDX data source time slot parity error
- 32** Transmit MDX sync error
- 33** Transmit MDX address parity error
- 34** Transmit MDX write data parity error
- 35** Transmit MDX can't be accessed (incorrect chip Id)
- 37** Control RAM parity error
- 38** Control RAM sync alarm
- 39** Control RAM port alarm
- 3A** Control RAM BIST flag is set
- 3B** Data RAM BIST flag is set
- 3C** Control RAM address parity error
- 3D** Control RAM write data parity error
- 3E** Control RAM device can't be accessed (incorrect chip Id)
- 3F** Control RAM circuit pack parity
- 40** Control RAM device is in reset state
- 41** Control RAM port alarm summary is stuck
- 42** ETSI TRD3ST exercise bit is set
- 43** ETSI ready high error on CCI
- 44** ETSI ready time-out error on CCI(ETSI can't be accessed)
- 45** Control RAM stuck bit error

## **ERR,ESR,MC,MP,CI,TN**

### **ERROR RECOVERY ERROR SOURCE REGISTER MAIN CONTROLLER**

#### **Explanation Of Command**

This message is a main controller error recovery output message. In addition to providing information for main controller error recovery, this message may also provide information for the following:

Main Processor  
Communications Interface

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01312]

I hh:mm:ss xy,ww ERR [ESR] MC [, {MP|CI}] TN dddd COMPL

### **Explanation Of Parameters**

---

**MC** - Main controller

**MP** - Main processor

**CI** - Communications interface

**ESR** - Error source register

The ESR is not output if the register content cannot be read.

**ERR** - Error recovery

**TN** - Transaction

**dddd** - Transaction number



## **ERR,ESR,MC,MP,TN,EVENT,COND,CI,BX,EBX**

### **ERROR RECOVERY MC**

#### **Explanation Of Command**

This message is a main controller error recovery output message reporting circuit pack alarms. It also provides information for the:

- Main Processor
- Communications Interface
- Extended Communications Interface
- Secondary Storage Controller
- Bus Extender or Expanded Bus Extender Pack for MP
- Maintenance Pack or Expanded Maintenance Pack

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01311]

```
I hh:mm:ss xy,ww  ERR[ ESR] MC[ MP] TN dddd EVENT eeee  \  
2 LN MSG:  
abab bbbb cccc dddd eeee ffff COND cc COMPL
```

[O.01311]

**I** hh:mm:ss xy,ww    **ERR**[ **ESR**] **MC**[ **CI**] **TN** dddd **EVENT** eeee    \  
**2 LN MSG:**  
**COND** cc **COMPL**

[O.01311]

**I** hh:mm:ss xy,ww    **ERR**[ **ESR**] **MC**[ {**BX**|**EBX**}] **TN** dddd **EVENT** eeee    \  
**2 LN MSG:**  
abab bbbb cccc dddd eeee ffff **COND** cc **COMPL**

[O.01311]

**I** hh:mm:ss xy,ww    **ERR**[ **ESR**] **MC**[ {**MTC**|**EMTC**}] **TN** dddd    \  
**EVENT** eeee    **2 LN MSG:**  
abab bbbb cccc dddd eeee ffff gggg hhhh iiii jjjj **COND** cc    \  
**COMPL**

### Explanation Of Parameters

**MC**        - Main controller

**MP**        - Main processor

**CI**        - Communications interface

**BX**        - Bus extender pack for MP

**MTC**       - Maintenance pack

**EBX**       - Expanded bus extender pack for MP

**EMTC**      - Expanded maintenance pack

**ESR**       - Error source register

This keyword is not output if the register content cannot be read.

**ERR**       - Error recovery

**TN**        - Transaction

**dddd**      - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

**EVENT** - Event

**eeee** - Event number

The event number can be specified in UTL::QRY, ERR to retrieve the contents of the DACS II error recovery log file which contains the data for this error recovery event.

**abab, bbbb, ..., jjjj**

- Raw data

0 to 10 words of hexadecimal raw error data for internal use. The number of words output is dependent upon the error event. Each word consists of four hexadecimal digits.

**ERR ESR MC MP data words:**

abab bbbb cccc dddd eeee ffff

|             |                                           |
|-------------|-------------------------------------------|
| <b>abab</b> | - CPU Interrupt Holding Register contents |
| <b>bbbb</b> | - CPU Interrupt Mask Register contents    |
| <b>cccc</b> | - Version                                 |
| <b>dddd</b> | - Type                                    |
| <b>eeee</b> | - CPU RAM checksum word 1                 |
| <b>ffff</b> | - CPU RAM checksum word 2                 |

**ERR ESR MC {BX|EBX} data words:**

abab bbbb cccc dddd eeee ffff

|             |                                              |
|-------------|----------------------------------------------|
| <b>abab</b> | - CPU Interrupt Holding Register contents    |
| <b>bbbb</b> | - CPU Interrupt Mask Register contents       |
| <b>cccc</b> | - BX/EBX Interrupt Holding Register contents |
| <b>dddd</b> | - BX/EBX Interrupt Mask Register contents    |
| <b>eeee</b> | - BX/EBX type                                |
| <b>ffff</b> | - BX/EBX version                             |

**ERR ESR MC {MTC|EMTC} data words:**

abab bbbb cccc dddd eeee ffff gggg hhhh iiii jjjj

|             |                                                       |
|-------------|-------------------------------------------------------|
| <b>abab</b> | - CPU Interrupt Holding Register contents             |
| <b>bbbb</b> | - MTC/EMTC Error Source Register 0 contents           |
| <b>cccc</b> | - MTC/EMTC Error Source Register 1 contents           |
| <b>dddd</b> | - MTC/EMTC Error Source Register 2 contents           |
| <b>eeee</b> | - MTC/EMTC Error Source Register 3 contents           |
| <b>ffff</b> | - MTC/EMTC Error Mask Register 0 contents             |
| <b>gggg</b> | - MTC/EMTC Error Mask Register 1 contents             |
| <b>hhhh</b> | - MTC/EMTC Error Mask Register 2 contents             |
| <b>iiii</b> | - MTC/EMTC Error Mask Register 3 contents             |
| <b>jjjj</b> | - MTC/EMTC Interrupt Control/Sanity Register contents |

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                 |
|-----------|---------------------------------|
| <b>20</b> | BX Access Error                 |
| <b>21</b> | BX Ram Parity Over Low Byte     |
| <b>22</b> | BX Ram Parity Over High Byte    |
| <b>23</b> | Fan Bank Zero Error Flag        |
| <b>24</b> | D5 Spare Bit Error              |
| <b>25</b> | Fan Bank One Error Flag         |
| <b>26</b> | D7 Spare Bit Error              |
| <b>27</b> | BX stuck summary bit            |
| <b>28</b> | Unknown interrupt from BX       |
| <b>29</b> | Error from side 0 bus extension |
| <b>2A</b> | Error from side 1 bus extension |
| <b>2B</b> | Unknown interrupt from MTC      |
| <b>2C</b> | MTC stuck summary bit           |
| <b>2D</b> | Unused bits on MTC pack         |
| <b>2E</b> | Error due to unused bit         |
| <b>2F</b> | Error due unknown reasons       |
| <b>30</b> | Power Failure                   |
| <b>31</b> | Sanity Time-out                 |
| <b>32</b> | BX stuck CCNI summary bit       |
| <b>D0</b> | CPU RAM Parity error            |

## **ERR,ESR,NPC,SIDE,TN,EVENT,COND**

### **ERROR RECOVERY DSPU NPC**

#### **Explanation Of Command**

This message indicates an alarm was detected in a digital signal processing circuit; for example, the digital multipoint bridge.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

#### **Nonhierarchical**

[O.01371]

I hh:mm:ss xy,ww ERR[ ESR] NPC [s]abc-[[t]def] SIDE s \  
TN dddd EVENT eeee 2 LN MSG:  
<error analysis data bytes>[ COND cc] COMPL

## Hierarchical

[O.01371]

I hh:mm:ss xy,ww ERR[ ESR] NPC uvmnp[-uvmqr] SIDE s \  
TN dddd EVENT eeee 2 LN MSG:  
<error analysis data bytes>[ COND cc] COMPL

## Explanation Of Parameters

**ERR** - Error recovery

**ESR** - Error source register

The ESR keyword is not output if the register content can not be read.

**NPC** - Network Processing Circuit

[s]abc - The 3- or 4-digit nonhierarchical odd DSPU NPC number

[t]def - The 3- or 4-digit nonhierarchical even DMB NPC number ([t]def =  
[s]abc + 1)

If NPC numbers are expressed in three digits, the valid values are:

SR and MJ type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1  | Unit<br>2  | Unit<br>3  | Unit<br>4  | Unit<br>5  | Unit<br>6  |
|------------|------------|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| <b>001</b> | <b>161</b> | <b>321</b> | <b>481</b> | <b>641</b> | <b>801</b> |
| <b>021</b> | <b>181</b> | <b>341</b> | <b>501</b> | <b>661</b> | <b>821</b> |
| <b>041</b> | <b>201</b> | <b>361</b> | <b>521</b> | <b>681</b> | <b>841</b> |
| <b>061</b> | <b>221</b> | <b>381</b> | <b>541</b> | <b>701</b> | <b>861</b> |
| <b>081</b> | <b>241</b> | <b>401</b> | <b>561</b> | <b>721</b> | <b>881</b> |
| <b>101</b> | <b>261</b> | <b>421</b> | <b>581</b> | <b>741</b> | <b>901</b> |
| <b>121</b> | <b>281</b> | <b>441</b> | <b>601</b> | <b>761</b> | <b>921</b> |
| <b>141</b> | <b>301</b> | <b>461</b> | <b>621</b> | <b>781</b> | <b>941</b> |

If NPC numbers are expressed in four digits, the valid values are:

SR and MJ type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1   | Unit<br>2   | Unit<br>3   | Unit<br>4   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0001</b> | <b>0161</b> | <b>0321</b> | <b>0481</b> |
| <b>0021</b> | <b>0181</b> | <b>0341</b> | <b>0501</b> |
| <b>0041</b> | <b>0201</b> | <b>0361</b> | <b>0521</b> |
| <b>0061</b> | <b>0221</b> | <b>0381</b> | <b>0541</b> |
| <b>0081</b> | <b>0241</b> | <b>0401</b> | <b>0561</b> |
| <b>0101</b> | <b>0261</b> | <b>0421</b> | <b>0581</b> |
| <b>0121</b> | <b>0281</b> | <b>0441</b> | <b>0601</b> |
| <b>0141</b> | <b>0301</b> | <b>0461</b> | <b>0621</b> |
| Unit<br>5   | Unit<br>6   | Unit<br>7   | Unit<br>8   |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0641</b> | <b>0801</b> | <b>0961</b> | <b>1121</b> |
| <b>0661</b> | <b>0821</b> | <b>0981</b> | <b>1141</b> |
| <b>0681</b> | <b>0841</b> | <b>1001</b> | <b>1161</b> |
| <b>0701</b> | <b>0861</b> | <b>1021</b> | <b>1181</b> |
| <b>0721</b> | <b>0881</b> | <b>1041</b> | <b>1201</b> |
| <b>0741</b> | <b>0901</b> | <b>1061</b> | <b>1221</b> |
| <b>0761</b> | <b>0921</b> | <b>1081</b> | <b>1241</b> |
| <b>0781</b> | <b>0941</b> | <b>1101</b> | <b>1261</b> |
| Unit<br>9   | Unit<br>10  | Unit<br>11  | Unit<br>12  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1281</b> | <b>1441</b> | <b>1601</b> | <b>1761</b> |
| <b>1301</b> | <b>1461</b> | <b>1621</b> | <b>1781</b> |
| <b>1321</b> | <b>1481</b> | <b>1641</b> | <b>1801</b> |
| <b>1341</b> | <b>1501</b> | <b>1661</b> | <b>1821</b> |
| <b>1361</b> | <b>1521</b> | <b>1681</b> | <b>1841</b> |
| <b>1381</b> | <b>1541</b> | <b>1701</b> | <b>1861</b> |
| <b>1401</b> | <b>1561</b> | <b>1721</b> | <b>1881</b> |
| <b>1421</b> | <b>1581</b> | <b>1741</b> | <b>1901</b> |

| Unit<br>13  | Unit<br>14  | Unit<br>15  | Unit<br>16  |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1921</b> | <b>2081</b> | <b>2241</b> | <b>2401</b> |
| <b>1941</b> | <b>2101</b> | <b>2261</b> | <b>2421</b> |
| <b>1961</b> | <b>2121</b> | <b>2281</b> | <b>2441</b> |
| <b>1981</b> | <b>2141</b> | <b>2301</b> | <b>2461</b> |
| <b>2001</b> | <b>2161</b> | <b>2321</b> | <b>2481</b> |
| <b>2021</b> | <b>2181</b> | <b>2341</b> | <b>2501</b> |
| <b>2041</b> | <b>2201</b> | <b>2361</b> | <b>2521</b> |
| <b>2061</b> | <b>2221</b> | <b>2381</b> | <b>2541</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-002</b> | <b>161-162</b> | <b>321-322</b> | <b>481-482</b> | <b>641-642</b> | <b>801-802</b> |
| <b>021-022</b> | <b>181-182</b> | <b>341-342</b> | <b>501-502</b> | <b>661-662</b> | <b>821-822</b> |
| <b>041-042</b> | <b>201-202</b> | <b>361-362</b> | <b>521-522</b> | <b>681-682</b> | <b>841-842</b> |
| <b>061-062</b> | <b>221-222</b> | <b>381-382</b> | <b>541-542</b> | <b>701-702</b> | <b>861-862</b> |
| <b>081-082</b> | <b>241-242</b> | <b>401-402</b> | <b>561-562</b> | <b>721-722</b> | <b>881-882</b> |
| <b>101-102</b> | <b>261-262</b> | <b>421-422</b> | <b>581-582</b> | <b>741-742</b> | <b>901-902</b> |
| <b>121-122</b> | <b>281-282</b> | <b>441-442</b> | <b>601-602</b> | <b>761-762</b> | <b>921-922</b> |
| <b>141-142</b> | <b>301-302</b> | <b>461-462</b> | <b>621-622</b> | <b>781-782</b> | <b>941-942</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0002</b> | <b>0161-0162</b> | <b>0321-0322</b> | <b>0481-0482</b> |
| <b>0021-0022</b> | <b>0181-0182</b> | <b>0341-0342</b> | <b>0501-0502</b> |
| <b>0041-0042</b> | <b>0201-0202</b> | <b>0361-0362</b> | <b>0521-0522</b> |
| <b>0061-0062</b> | <b>0221-0222</b> | <b>0381-0382</b> | <b>0541-0542</b> |
| <b>0081-0082</b> | <b>0241-0242</b> | <b>0401-0402</b> | <b>0561-0562</b> |
| <b>0101-0102</b> | <b>0261-0262</b> | <b>0421-0422</b> | <b>0581-0582</b> |
| <b>0121-0122</b> | <b>0281-0282</b> | <b>0441-0442</b> | <b>0601-0602</b> |
| <b>0141-0142</b> | <b>0301-0302</b> | <b>0461-0462</b> | <b>0621-0622</b> |



| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0642</b> | <b>0801-0802</b> | <b>0961-0962</b> | <b>1121-1122</b> |
| <b>0661-0662</b> | <b>0821-0822</b> | <b>0981-0982</b> | <b>1141-1142</b> |
| <b>0681-0682</b> | <b>0841-0842</b> | <b>1001-1002</b> | <b>1161-1161</b> |
| <b>0701-0702</b> | <b>0861-0862</b> | <b>1021-1022</b> | <b>1181-1182</b> |
| <b>0721-0722</b> | <b>0881-0882</b> | <b>1041-1042</b> | <b>1201-1202</b> |
| <b>0741-0742</b> | <b>0901-0902</b> | <b>1061-1062</b> | <b>1221-1222</b> |
| <b>0761-0762</b> | <b>0921-0922</b> | <b>1081-1082</b> | <b>1241-1242</b> |
| <b>0781-0782</b> | <b>0941-0942</b> | <b>1101-1102</b> | <b>1261-1262</b> |
| <br>             |                  |                  |                  |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1282</b> | <b>1441-1442</b> | <b>1601-1602</b> | <b>1761-1762</b> |
| <b>1301-1302</b> | <b>1461-1462</b> | <b>1621-1622</b> | <b>1781-1782</b> |
| <b>1321-1322</b> | <b>1481-1482</b> | <b>1641-1642</b> | <b>1801-1802</b> |
| <b>1341-1342</b> | <b>1501-1502</b> | <b>1661-1662</b> | <b>1821-1822</b> |
| <b>1361-1362</b> | <b>1521-1522</b> | <b>1681-1682</b> | <b>1841-1842</b> |
| <b>1381-1382</b> | <b>1541-1542</b> | <b>1701-1702</b> | <b>1861-1862</b> |
| <b>1401-1402</b> | <b>1561-1562</b> | <b>1721-1722</b> | <b>1881-1882</b> |
| <b>1421-1422</b> | <b>1581-1582</b> | <b>1741-1742</b> | <b>1901-1902</b> |
| <br>             |                  |                  |                  |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-1922</b> | <b>2081-2082</b> | <b>2241-2242</b> | <b>2401-2402</b> |
| <b>1941-1942</b> | <b>2101-2102</b> | <b>2261-2262</b> | <b>2421-2422</b> |
| <b>1961-1962</b> | <b>2121-2122</b> | <b>2281-2282</b> | <b>2441-2442</b> |
| <b>1981-1982</b> | <b>2141-2142</b> | <b>2301-2302</b> | <b>2461-2462</b> |
| <b>2001-2002</b> | <b>2161-2162</b> | <b>2321-2322</b> | <b>2481-2482</b> |
| <b>2021-2022</b> | <b>2181-2182</b> | <b>2341-2342</b> | <b>2501-2502</b> |
| <b>2041-2042</b> | <b>2201-2202</b> | <b>2361-2362</b> | <b>2521-2522</b> |
| <b>2061-2062</b> | <b>2221-2222</b> | <b>2381-2382</b> | <b>2541-2542</b> |

**uvmnp** - Hierarchical odd DSPU NPC numbers

**uvmqr** - Hierarchical even DMB NPC numbers

**uv** - Unit number

**m** - Module number

**np, qr** - NPC number within the module  
(qr = np + 1)

The values are listed below:

SR and MJ NPC numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

| Unit         | Module     | NPC       |
|--------------|------------|-----------|
| <b>01-16</b> | <b>1-8</b> | <b>01</b> |

MB type NPC numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-8</b> | <b>01-02</b> |

**SIDE** - Side

**s** - Side number (0 or 1)

**TN** - Transaction

**dddd** - Transaction number

The transaction number can be specified in the UTL::QRY,ERR message (I.55011) to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

**EVENT** - Event

**eeee** - Event number

## error analysis data bytes

- Troubleshooting data (four-digit hexadecimal)

There can be from 0 through 10 data bytes output depending upon the circuit pack and error condition. The fields are labeled aaaa, bbbb, cccc, dddd, eeee, ffff, gggg, hhhh, iiii, and jjjj below for explanation purposes.

For the Digital Multipoint Bridge (DMB),  
C-Bit Processor (CPR),  
Multipoint Junction Unit (MJU), and  
Subrate Multiplexer (SRM)

aaaa DMB Interrupt Register content  
bbbb DMB Interrupt Mask Register content

For the DMB only

cccc cme 0 reply - word 2  
dddd cme 0 reply - word 1  
eeee cme 1 reply - word 2  
ffff cme 1 reply - word 1  
gggg conf 0 reply - word 2  
hhhh conf 0 reply - word 1  
iiii conf 1 reply - word 2  
jjjj conf 1 reply - word 1

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

**70** DMB access error (e.g. pack not there )  
**71** DMB serial access error (pack not there)  
**72** DMB parallel access error  
**73** DMB bits stuck in exercise register  
**74** DMB data processing error  
**75** Multiple data parity error, CCB problem  
**76** DMB clock error  
**77** Multiple clock errors, CCB/SYNC problem  
**78** DMB FIFO error  
**79** Possible power failure on side  
**7A** DMB control memory error 0 (used for trans)  
**7B** DMB control memory error 1 (used for trans)  
**7C** Control Memory 0 control ram parity error  
**7D** Control Memory 1 control ram parity error  
**7E** Control Memory 0 control interface error  
**7F** Control Memory 1 control interface error  
**80** Control Memory 0 loss of sync error

**cc**    *Explanation*

|           |                                              |
|-----------|----------------------------------------------|
| <b>81</b> | Control Memory 1 loss of sync error          |
| <b>82</b> | Control Memory 0 DMB input data parity error |
| <b>83</b> | Control Memory 1 DMB input data parity error |
| <b>84</b> | DMB conference error 0 ( used for trans)     |
| <b>85</b> | DMB conference error 1 ( used for trans)     |
| <b>86</b> | Conference 0 control interface error         |
| <b>87</b> | Conference 1 control interface error         |
| <b>88</b> | Conference 0 control ram parity error        |
| <b>89</b> | Conference 1 control ram parity error        |
| <b>8A</b> | Conference 0 DMB input data parity error     |
| <b>8B</b> | Conference 1 DMB input data parity error     |
| <b>8C</b> | Conference 0 DMB device (chip) error         |
| <b>8D</b> | Conference 1 DMB device (chip) error         |
| <b>8E</b> | Bad Ram Data in DMB device (bits alarms)     |
| <b>8F</b> | Bad Ram Data in DMB device (bits alarms)     |
| <b>98</b> | CPR serial access error                      |
| <b>99</b> | CPR clock error                              |
| <b>9A</b> | CPR processor interface failure              |
| <b>9B</b> | CPR input data interface error               |
| <b>9C</b> | CPR D-Bit interface parity error             |
| <b>9E</b> | CPR control memory or state machine failure  |
| <b>9F</b> | CPR FIFO FRDY/FFULL stuck bit                |
| <b>BF</b> | MJU serial access error                      |
| <b>C0</b> | MJU clock error                              |
| <b>C1</b> | MJU processor interface failure              |
| <b>C2</b> | MJU input data interface failure             |
| <b>C3</b> | MJU error correction circuitry failure       |
| <b>C4</b> | MJU control memory failure                   |
| <b>C5</b> | MJU output block failure                     |
| <b>C6</b> | MJU sampling circuitry failure               |
| <b>C7</b> | MJU control memory or state machine failure  |
| <b>C8</b> | SRM serial access error                      |
| <b>C9</b> | SRM clock error                              |
| <b>CA</b> | SRM processor interface failure              |
| <b>CB</b> | SRM input data interface failure             |
| <b>CC</b> | SRM error correction block failure           |
| <b>CD</b> | SRM control memory failure                   |
| <b>CE</b> | SRM multiplexor block failure                |
| <b>CF</b> | SRM output block failure                     |
| <b>D5</b> | Illegal/unknown condition code               |
| <b>6D</b> | Invalid FPA state                            |

## **ERR,ESR,NPC,TN,EVENT,COND**

### **ERROR RECOVERY FTU NPC**

#### **Explanation Of Command**

This message indicates that an alarm was detected in a facility terminating unit Network Processing Circuit. The specific alarm type is identified by the error condition code.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

#### **Nonhierarchical**

[O.01372]

I hh:mm:ss xy,ww ERR[ ESR] NPC [s]abc-[t]def TN dddd \  
EVENT eeee 2 LN MSG:  
<error analysis data bytes>[ COND cc] COMPL

## Hierarchical

[O.01372]

**I** hh:mm:ss xy,ww    **ERR**[ **ESR**] **NPC** uvmnp-wxkqr **TN** dddd \\  
**2 LN MSG:**  
**EVENT** eeee <error analysis data bytes>[ **COND** cc] **COMPL**

## Explanation Of Parameters

**ERR**    - Error recovery

**ESR**    - Error source register

The ESR keyword is not output if the register content cannot be read.

**NPC**    - Network processing circuit

**[s]abc**        - The 3- or 4-digit nonhierarchical NPC number denoting beginning of range specification

**[t]def**        - The 3- or 4-digit nonhierarchical NPC number denoting end of range specification

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

**uvmnp** - Hierarchical NPC number for beginning of range

**wxkqr** - Hierarchical NPC number for end of range

DE, DS, and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

**TN** - Transaction

**dddd** - Transaction number

The TN number can be specified in message I.55011 (in PDS, UTL::QRY,ERR or in MML, RTRV-LOG::ERR) to retrieve the content of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

**EVENT** - Event

**eeee** - Event number

The EVENT number can be specified in message I.55011 (in PDS, UTL::QRY,ERR or in MML, RTRV-LOG::ERR) to retrieve the content of the DACS II error recovery log file which contains the data of this error recovery event.

## **error analysis data bytes**

- Troubleshooting data

Six bytes of 4-digit hexadecimal troubleshooting data, labeled for explanatory purposes below, as aaaa, bbbb, cccc, dddd, eeee, and ffff.

**aaaa** - Dual digroup card (DDC) ESR0 and ESR1

The first two digits (left to right) report ESR0 and the second two digits report ESR1

**bbbb** - Unused

**cccc** - DDC hardware and channel controller

**dddd** - DDC transceiver A Tferr & Rserr register

**eeee** - DDC transceiver B Tferr & Rserr register

**ffff** - DDC Transceiver transmit slip

**COND** - Condition

**cc** - Hexadecimal condition code

**cc**    *Explanation*

|           |                                     |
|-----------|-------------------------------------|
| <b>3D</b> | DPC ROM error                       |
| <b>3E</b> | DPC loss of timing                  |
| <b>3F</b> | OOS RAM test ran while IS           |
| <b>53</b> | NPC bus error                       |
| <b>54</b> | NPC can not be accessed             |
| <b>55</b> | NPC is alarming on FC               |
| <b>56</b> | Facility Processor Sanity Error     |
| <b>57</b> | SYNC Error                          |
| <b>58</b> | Channel controller loss of clock    |
| <b>59</b> | Channel controller frame sync error |
| <b>5A</b> | CC configuration register error     |
| <b>5B</b> | CC instruction ram error            |
| <b>5C</b> | CC parity error                     |
| <b>5D</b> | CC transmit data error              |
| <b>5E</b> | CC receiver data error              |
| <b>5F</b> | CC exercise error                   |
| <b>60</b> | CC summary bit error                |
| <b>61</b> | Hard RAM error                      |
| <b>62</b> | Hard ROM check error                |
| <b>63</b> | Hard Error stuck bit                |
| <b>64</b> | Transceiver A stuck bit             |
| <b>65</b> | Transceiver A transmit slip         |
| <b>66</b> | Transceiver A Error                 |
| <b>67</b> | Transceiver B stuck bit             |
| <b>68</b> | Transceiver B transmit slip         |
| <b>69</b> | Transceiver B Error                 |
| <b>6A</b> | Circuit ID Error                    |
| <b>6B</b> | Facility errors                     |



| <b>cc</b> | <i>Explanation</i>             |
|-----------|--------------------------------|
| <b>6C</b> | NPC address parity error       |
| <b>D5</b> | Illegal/unknown condition code |
| <b>6E</b> | Invalid DDC pack id            |

## **ERR,ESR,SYNC,TLI,SSP,TN,EVENT,COND**

### **ERROR RECOVERY SYNC TLI SSP**

#### **Explanation Of Command**

This message indicates that error recovery was called to handle an error that occurred in the synchronizer timing link interface sync port. The message also indicates the nature of the error.

If the port on which the error has occurred receives clock information from a dual primary card, then a network processing circuit has been added.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

#### **Nonhierarchical**

[O.01341]

```
I hh:mm:ss xy,ww  ERR[ ESR] SYNC a TLI m SSP b TN dddd \  
EVENT eeee  2 LN MSG:  
<synchronizer status data bytes>[ COND cccc] COMPL
```

## **Hierarchical**

---

[O.01341]

**I** hh:mm:ss xy,ww    **ERR**[ **ESR**] **SYNC** **a** **TLI** **m** **SSP** **b** **TN** dddd \  
**EVENT** eeee    **2 LN MSG:**  
<synchronizer status data bytes>[ **COND** cccc] **COMPL**

## **Explanation Of Parameters**

---

**ERR**    - Error recovery

**ESR**    - Error source register

The ESR keyword is not output if the register contents cannot be read.

**SYNC**   - Synchronizer

**a**       - SYNC number (0 or 1)

**TLI**    - Timing link interface

**m**       - TLI number (1 through 4)

**SSP**    - Synchronizer sync port

**b**       - SSP number (0 or 1)

**uvmnp** - Hierarchical NPC number

**TN**     - Transaction

**dddd**   - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

**EVENT** - Event

**eeee**   - Event number

The EVENT number can be specified in UTL::QRY, ERR to retrieve the contents of the DACS II error recovery log file which contains the data of this error recovery event.

## **synchronizer status data bytes**

- Synchronizer status data in binary form

From 0 to 5 bytes may be output, depending upon the synchronizer error condition. In the explanations below the bytes are named "byte 1", "byte 2, and so on. The eight bits of each byte are labeled abcdefgh and are explained below. These bytes appear in the message in numeric order from left to right with "byte 1" first.

Note that if communications between the MP and the SYNC have failed, Error Recovery may not get the correct status data from the SYNC. All bits in "synchronizer status data bytes" will then be set to 1 by default.

### **byte 1 - Timing link status**

| <i>bit</i> | <i>Explanation</i>                      |
|------------|-----------------------------------------|
| a          | Timing link equipped by MC              |
| b          | Timing link declared out-of-service     |
| c          | Timing link out-of-service due to error |
| d          | Associated Timing Extractor TLI error   |
| efgh       | Not used                                |

### **byte 2 - Priority weighting of link, a number from 1 to 8**

### **byte 3 - Framing format, line format, and frequency**

| <i>bits</i> | <i>Explanation</i>                                |
|-------------|---------------------------------------------------|
| abc         | Framing format (valid only for TXB1 or TXB2 TLIs) |
| TXB1        |                                                   |
| 000         | D4                                                |
| 001         | ESF                                               |
| 010         | DDS                                               |
| TXB2        |                                                   |
| 000         | CCS                                               |
| 001         | ERSM                                              |
| 010         | CAS0                                              |
| 011         | CAS1                                              |

de Line format (valid only for TXB1 or TXB2 TLIs)

TXB1

00 Bipolar  
01 B8ZS

TXB2

10 AMI  
11 HDB3

fgh Frequency (TXUC TLI)

000 512 kHz  
001 1.000 MHz  
010 1.544 MHz  
011 2.048 MHz  
100 5.000 MHz

**byte 4 - Mixed status**

*bit Explanation*

a Carrier failure alarm/loss of signal (TXB1, TXB2, and TXCC)  
b Timing signal loss of energy  
c Autobaud failure  
d Frequency offset flag  
e Excessive jitter  
f Phase step  
gh Not used

**byte 5 - Framing status**

*bit Explanation*

a Out of frame  
b Major framing error rate  
c Minor framing error rate  
defgh Not used

**COND** - Condition

**cccc** - Error recovery condition code

**cccc** - Hexadecimal condition code

**cccc**    *Explanation*

**E600**    TL error reported, unknown

**E602**    Timing Extractor type TLI has hardware problem

**E603**    Timing Extractor type TLI has autobaud failure

**E806**    TLI error cleared

## **ERR,ESR,SYNC,TLI,TN,EVENT,COND**

### **ERROR RECOVERY**

#### **Explanation Of Command**

This message indicates that error recovery was called to handle an error that occurred in a synchronizer timing link interface, and also the nature of the error.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01342]

```
I hh:mm:ss xy,ww  ERR [ESR] SYNC a TLI m TN dddd EVENT eeee  \  
2 LN MSG:  
<synchronizer status data bytes> COND cccc COMPL
```

## **Explanation Of Parameters**

---

**ERR** - Error recovery

**ESR** - Error source register

The ESR keyword is not output if the register contents cannot be read.

**SYNC** - Synchronizer

**a** - Synchronizer number (0 or 1)

**TLI** - Timing link interface

**m** - TLI number (1 through 4)

**TN** - Transaction

**dddd** - Transaction number

**EVENT** - Event

**eeee** - Event number

synchronizer status data bytes

- Synchronizer status data in binary form

Three bytes of synchronizer status data are output. These bytes are named "byte1", "byte2", and "byte3" in the explanations below. They would appear on output as "byte1 byte2 byte3" in place of "synchronizer status data bytes". The eight bits in each byte are labeled abcdefgh in left to right order. These bits are set to "1" for the listed conditions:



**byte1** - Overall status and configuration

| bit         | Condition                                                 |
|-------------|-----------------------------------------------------------|
| abcd        | TLI type                                                  |
| 0000        | TXB1, 1.544 Mb/s DS1 <b>Extractor</b>                     |
| 0001        | TXB2, 2.048 Mb/s Primary Block <b>(120 OHM) Extractor</b> |
| 0010        | TXCC, Composite Clock <b>Extractor</b>                    |
| 0011        | TXUC, High Level Unipolar Clock <b>Extractor</b>          |
| 0100        | TXRF, Basic System Reference Frequency                    |
| 0101        | TDCC, 64 kb/s Composite Clock Distributor                 |
| 0110        | TDS2, 2.048 MHz Sine Distributor                          |
| <b>0111</b> | <b>TXCP, CEPT 2.048 MHz Sine (120 Ohm) Extractor</b>      |
| e           | TLI is grown                                              |
| f           | TLI out-of-service                                        |
| g           | TLI hardware error                                        |
| h           | Unused bit                                                |

**byte2** - Hardware status and diagnostic results

| bit                                                                                                           | Condition                                                          |
|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| a                                                                                                             | Hardware energy detector on the time base strobe signal has failed |
| b                                                                                                             | Loss of time base strobe signal coming from the DPLL               |
| c                                                                                                             | Hardware energy detector on the CRO signal has failed              |
| d                                                                                                             | Loss of reference clock signal coming from the CRO                 |
| <b>Note:</b> These bits have meaning only for TDCC and TDS2 TLIs and when the SYNC is a master timing source. |                                                                    |
| e                                                                                                             | Side 0                                                             |
| f                                                                                                             | Side 1                                                             |
| <b>Note:</b> These bits have meaning only for TE TLIs.                                                        |                                                                    |
| For TXB1 or TXB2 TLIs:                                                                                        |                                                                    |
| Framer chip on side 0 (e) and/or side 1 (f) has failed.                                                       |                                                                    |
| For TXCC TLIs:                                                                                                |                                                                    |
| Out-of-lock detector on side 0 (e) and/or side 1 (f) has failed.                                              |                                                                    |
| g, h                                                                                                          | Unused bits                                                        |

**byte3** - Hardware status and diagnostic results for timing distributor type TLI only

| <i>bit</i> | <i>Condition</i>                                                                                              |
|------------|---------------------------------------------------------------------------------------------------------------|
| a          | Clock alignment detector failed diagnostic                                                                    |
| b          | Clock generator energy detector failed diagnostic                                                             |
| c          | 30 ms sync pulse energy detector failed diagnostic                                                            |
| d          | Signal generating prom parity error detector failed diagnostic                                                |
| e          | Output clock alignment error                                                                                  |
| f          | Loss of energy on the output clock generator ripple carry, indicating the distributed clock signals have died |
| g          | Loss of energy on the 30 ms sync pulse coming from the DPLL board                                             |
| h          | Signal generating prom parity error detected                                                                  |

**COND** - Condition

**cccc** - Hexadecimal condition code

| <b>cccc</b> | <i>Explanation</i>                           |
|-------------|----------------------------------------------|
| <b>E500</b> | TLI error, link went down before status read |
| <b>E501</b> | TLI hardware error                           |
| <b>E700</b> | CRO error, unknown due to link, SYNC error   |
| <b>E701</b> | CRO loss of energy detected SYNC error       |
| <b>E702</b> | CRO loss of energy CRO error                 |
| <b>E703</b> | CRO frequency offset                         |
| <b>E704</b> | CRO declared OOS                             |

## **ERR,ESR,SYNC,TN,EVENT,COND**

### **ERROR RECOVERY**

#### **Explanation Of Command**

This message indicates that error recovery was called to handle an error that occurred in the specified synchronizer. The message also indicates the nature of the error.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01331]

I hh:mm:ss xy,ww ERR [ESR] SYNC a TN dddd EVENT eeee \  
2 LN MSG:  
<byte1> <byte2> <byte3> <byte4> <byte5> COND cccc COMPL

## **Explanation Of Parameters**

---

**ERR** - Error recovery

**ESR** - Error source register

The ESR keyword is not output if the register contents cannot be read.

**SYNC** - Synchronizer

**a** - Synchronizer number (0 or 1)

**TN** - Transaction

**dddd** - Transaction number

**EVENT** - Event

**eeee** - Event number

**byte1,**

**byte2,**

...,

**byte5** - Synchronizer status data bytes

Synchronizer status data in binary form. The number of data bytes ranges from 1 to 5, depending upon the synchronizer error type. Each byte has eight bits labeled abcdefgh in left to right order.

If main processor to synchronizer communication has failed, Error Recovery may not get the correct status data from the Synchronizer. All bits in "synchronizer status data bytes" will then be set to 1 by default.

**byte1** - Synchronizer status data

| bit  | Explanation                  |
|------|------------------------------|
| a    | MC is down flag              |
| b    | SYNC is down flag            |
| c    | Mate SYNC is OOS             |
| d    | Time Base is down            |
| efgh | Timing link inservice status |

**byte2** - Timing link (SSP) inservice status

**byte3** - Synchronizer status data

| bit | Explanation                                                      |
|-----|------------------------------------------------------------------|
| a   | SYNC restart flag                                                |
| b   | Hardware summary, error on DPLL                                  |
| c   | PLL summary, any major cross-couple error                        |
| d   | Cross-couple summary, any major cross-couple error               |
| e   | Clock Reference Oscillator summary error,<br>any major CRO error |
| fgh | unused                                                           |

**byte4** - Synchronizer status data

| bit | Explanation                          |
|-----|--------------------------------------|
| ab  | Synchronizer architecture            |
| ab  | Explanation                          |
| 00  | Slave in master-slave configuration  |
| 01  | Master in master-slave configuration |
| cde | Operational stratum field            |
| cde | Explanation                          |
| 000 | Domestic stratum 3                   |
| 011 | Domestic stratum 2                   |
| fg  | PLL locking mode field               |
| fg  | Explanation                          |
| 00  | Normal                               |
| 01  | Fast                                 |
| 10  | Holdover                             |
| h   | Hit timing holdover field            |

**byte5** - Synchronizer status data

| bit | Explanation                                                  |
|-----|--------------------------------------------------------------|
| ab  | Active timing link source field                              |
| ab  | Explanation                                                  |
| 00  | Holdover                                                     |
| 01  | Timing link                                                  |
| 10  | Cross-couple                                                 |
| 11  | CRO                                                          |
| cde | Active link field                                            |
| cde | Explanation                                                  |
| 000 | TLI(Timing link interface) 1, SSP0(Synchronizer sync port 0) |
| 001 | TLI 1, SSP1                                                  |
| 010 | TLI 2, SSP0                                                  |
| 011 | TLI 2, SSP1                                                  |
| 100 | TLI 3, SSP0                                                  |
| 101 | TLI 3, SSP1                                                  |
| 110 | TLI 4, SSP0                                                  |
| 111 | TLI 4, SSP1                                                  |
| fgh | unused                                                       |

**cccc** - Error recovery condition code

**cccc** - Hexadecimal condition code

| <b>cccc</b> | <i>Explanation</i>                           |
|-------------|----------------------------------------------|
| <b>E000</b> | CCNI summary bit set; no more info           |
| <b>E001</b> | Sync says its down                           |
| <b>E002</b> | Sync says its time base is down              |
| <b>E003</b> | SYNC autonomously restarted itself           |
| <b>E004</b> | MP-SYNC communications failure               |
| <b>E100</b> | Unknown DPLL error                           |
| <b>E101</b> | ROM checksum error                           |
| <b>E102</b> | RAM data error, RAM address line stuck       |
| <b>E103</b> | Phase/frequency output latch error           |
| <b>E104</b> | Loss of energy on output of frequency synth. |
| <b>E105</b> | Loss of energy on output of phase shifter    |
| <b>E106</b> | Loss of energy on generated SYNC pulse       |
| <b>E107</b> | Loss of energy on time base strobe signal    |
| <b>E108</b> | Interrupt controller error                   |
| <b>E109</b> | Interrupt holding register error             |
| <b>E10A</b> | Uart error                                   |
| <b>E10B</b> | Control data readable output latch error     |

**cccc**    *Explanation*

|             |                                                        |
|-------------|--------------------------------------------------------|
| <b>E200</b> | Unknown time base error                                |
| <b>E201</b> | Time base loss of energy detector                      |
| <b>E202</b> | TB i/o err. cant read TB packid or oven monitor        |
| <b>E203</b> | Time base frequency drift                              |
| <b>E204</b> | Both syncs time base oven is cold                      |
| <b>E205</b> | Time base oven is cold                                 |
| <b>E300</b> | Unknown PLL error,link went down before reading status |
| <b>E301</b> | PLL end of range                                       |
| <b>E302</b> | PLL excessive phase error (125 uSec out of phase)      |
| <b>E303</b> | PLL real time violations                               |
| <b>E304</b> | PLL fast start time out                                |
| <b>E305</b> | PLL end of range implicating TL                        |
| <b>E400</b> | Unknown mate error, link went down before read status  |
| <b>E401</b> | Mate out of service                                    |
| <b>E402</b> | Mate sync hardware error                               |
| <b>E403</b> | Cross couple loss of energy                            |
| <b>E404</b> | Cross couple loss of energy                            |
| <b>E405</b> | Mate link down                                         |
| <b>E406</b> | Cross couple real time violation                       |
| <b>E407</b> | Cross couple fast lock range                           |
| <b>E408</b> | Cross couple frequency offset error                    |
| <b>E409</b> | Cross couple out of lock                               |

## **ERR,ESR,TSI,TN,EVENT,COND**

### **ERROR RECOVERY TIME SLOT INTERCHANGE**

#### **Explanation Of Command**

This error recovery message indicates that an error is occurring in the time slot interchange. This message reports an alarm on a time slot interchange circuit pack. The error type is contained in the error condition code.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01353]

```
I hh:mm:ss xy,ww  ERR [ESR] TSI sft TN dddd EVENT eeee  \  
2 LN MSG:  
<error analysis data> COND cc COMPL
```



### **Explanation Of Parameters**

---

**ERR** - Error recovery

**ESR** - Error source register

The ESR keyword is not output if the register contents can not be read.

**TSI** - Time slot interchanger

**sft** - TSI identifier

**s** - Cross-connect side (0 or 1)

**f** - FROM unit (1 through 6)

**t** - TO unit (1 through 6)

**TN** - Transaction

**dddd** - Transaction number

**EVENT** - Event

**eeee** - Event number

#### error analysis data

- The error analysis data consists of from 2 to 10 four-digit hexadecimal fields labeled regn below. The number of fields reported depends upon the error condition. The data is used for internal troubleshooting purposes only.

For pack id errors and TSI stuck bit errors the data include the pack id and the TSI number.

**regn** - Device register n (n ranges from 2 through 10)

For the TSI identified by sft:

There are 16 TSI devices in a TSI circuit pack.

Each bit set in the summary status register indicates an alarming device on TSI sft.

For each alarming TSI device, the device status register is dumped in device fields <reg1> through <reg2>, one device per register. Up to four devices can dump their status register, per message. If less than four devices are alarming, the fields will have a 0000 value.

## Register Bit Definitions

**reg1** - TSI summary status register

| bit | Definition                 |
|-----|----------------------------|
| 15  | Error on TSI sft device 15 |
| 14  | Error on TSI sft device 14 |
| 13  | Error on TSI sft device 13 |
| 12  | Error on TSI sft device 12 |
| 11  | Error on TSI sft device 11 |
| 10  | Error on TSI sft device 10 |
| 09  | Error on TSI sft device 09 |
| 08  | Error on TSI sft device 08 |
| 07  | Error on TSI sft device 07 |
| 06  | Error on TSI sft device 06 |
| 05  | Error on TSI sft device 05 |
| 04  | Error on TSI sft device 04 |
| 03  | Error on TSI sft device 03 |
| 02  | Error on TSI sft device 02 |
| 01  | Error on TSI sft device 01 |
| 00  | Error on TSI sft device 00 |

reg2,

reg3,

reg4,

**reg5** - TSI device summary status registers 2 through 5

For up to four TSI devices indicated by reg2 through reg5, each device will be represented by a summary status register indicating the following information:

| bit(s) | Definition                              |
|--------|-----------------------------------------|
| 15     | Not used                                |
| 14     | Not used                                |
| 13     | Odd parity over data bits 12 through 00 |
| 12     | TSI memory diagnostic in progress       |
| 11-08  | 4-bit TSI ID                            |
| 07     | Exercise in progress                    |
| 06     | Not used                                |
| 05     | Memory error overflow                   |
| 04     | Failure of memory diagnostic            |
| 03     | Loss of 8 MHz clock                     |
| 02     | Output data error                       |
| 01     | Control RAM parity error                |
| 00     | Microprocessor bus error                |

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

- B0** Pack id error, can't read pack
- B1** TSI stuck bit, summary bit set, no devices alarming
- B2** TSI device error
- B3** TSI device id error, cannot read device
- B4** Illegal exercise bits set
- B5** Bus address error
- B6** Device clock error
- B7** Device control ram parity error
- B8** Output data parity error (from an FTM)
- B9** Corresponding CCNI bit is stuck

## **ERR,ESR,UNIT,DSPI,TN,EVENT,COND**

### **ERROR RECOVERY UNIT DSPI**

#### **Explanation Of Command**

This autonomous message reports that DACS II detected an alarm on the specified unit's digital signal processing interface.

#### **Command**

Not applicable.

#### **Completion Message**

[O.01365]

I hh:mm:ss xy,ww ERR[ ESR] UNIT [q]q DSPI TN dddd \  
EVENT eeee 2 LN MSG:  
<error analysis data> COND cc COMPL

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**ERR** - Error recovery

**ESR** - Error source register

The ESR keyword is not output if the register content cannot be read.

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**DSPI** - Digital signal processing interface

**TN** - Transaction

**dddd** - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

**EVENT** - Event

**eeee** - Event number

The event number can be specified in UTL::QRY, ERR to retrieve the contents of the DACS II error recovery log file which contains the data for this error recovery event.

#### **error analysis data**

- Troubleshooting data (four-digit hexadecimal)

Six words of troubleshooting data. For purposes of explanation they are here labeled and appear in the the following manner:

aaaa bbbb cccc dddd eeee ffff

| Name | Explanation |
|------|-------------|
|------|-------------|

|      |                                         |
|------|-----------------------------------------|
| aaaa | CPU Interrupt Holding Register contents |
|------|-----------------------------------------|

|      |                                      |
|------|--------------------------------------|
| bbbb | CPU Interrupt Mask Register contents |
|------|--------------------------------------|

|      |                                              |
|------|----------------------------------------------|
| cccc | DSPI Interrupt Capturing Register 0 contents |
|------|----------------------------------------------|

|      |                                              |
|------|----------------------------------------------|
| dddd | DSPI Interrupt Capturing Register 0 contents |
|------|----------------------------------------------|

|      |                                              |
|------|----------------------------------------------|
| eeee | DSPI Interrupt Capturing Register 1 contents |
|------|----------------------------------------------|

|      |                                              |
|------|----------------------------------------------|
| ffff | DSPI Interrupt Capturing Register 1 contents |
|------|----------------------------------------------|

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 6D** DSPI access error (e.g. pack not there)
- 6E** DSPI bus data parity error
- 6F** DSPI bus address parity error
- D1** Source of error is unknown
- D2** Source of error was not found
- D3** Stuck bit in register
- D5** Illegal/unknown condition code

## **ERR,ESR,UNIT,FC,TN,EVENT,COND**

### **ERROR RECOVERY UNIT FC**

#### **Explanation Of Command**

This autonomous message reports that DACS II has detected an alarm on a given facility terminating unit's format converter.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01364]

I hh:mm:ss xy,ww ERR[ ESR] UNIT [q]q FC sb TN dddd \  
EVENT eeee 2 LN MSG:  
<error analysis data> COND cc COMPL

## **Explanation Of Parameters**

---

**ERR** - Error recovery

**ESR** - Error source register

The ESR keyword is not output if the register contents cannot be read.

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**FC** - Format converter

**sb** - FC identifier

**s** - FC side (0 or 1)

**b** - FC No. (1 through 4)

**TN** - Transaction

**dddd** - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

**EVENT** - Event

**eeee** - Event number

The event number can be specified in UTL::QRY, ERR to retrieve the contents of the DACS II error recovery log file which contains the data for this error recovery event.

### **error analysis data**

- troubleshooting data (four-digit hexadecimal)

Six words of troubleshooting data. For purposes of explanation they are here labeled and appear in the the following manner:

aaaa bbbb cccc dddd eeee ffff

*Name Explanation*

aaaa Board Level ESR0 & ESR1 content

bbbb Board Level EMR0 & EMR1 content

cccc RF Device ESR0 & EMR0 content

dddd RF Device ESR1 & EMR1 content

eeee RF Device ESR2 & EMR2 content

ffff RF Device & TF Device Status Register content



**COND** - Condition

**cc** - Hexadecimal condition code

**cc**    *Explanation*

|           |                                |
|-----------|--------------------------------|
| <b>4C</b> | FC can't be accessed           |
| <b>4D</b> | Timer Error                    |
| <b>4E</b> | Circuit ID Error               |
| <b>4F</b> | Transmit Formatter Error       |
| <b>50</b> | Receiver Formatter Error       |
| <b>51</b> | Sanity Timer Interrupt         |
| <b>52</b> | RF bus error                   |
| <b>D5</b> | Illegal/unknown condition code |

## **ERR,ESR,UNIT,FLI,TN,EVENT,COND**

### **ERROR RECOVERY FLI**

#### **Explanation Of Command**

This message reports that a failure was detected in a facility line interface of a DS3 unit.

#### **Command**

Not applicable.

#### **Completion Message**

[O.01401]

I hh:mm:ss xy,ww ERR[ ESR] UNIT [q]q FLI k TN dddd \  
EVENT eeee 2 LN MSG:  
<error analysis data> COND cc COMPL

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

Not applicable.

## Explanation Of Parameters

**ERR** - Error recovery

**ESR** - Error source register

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**FLI** - Facility Line Interface

**k** - Side identifier of the FLI

*k*      *Explanation*

S      Service side

P      Protection side

**TN** - Transaction

**dddd** - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

**EVENT** - Event

**eeee** - Event number

The event number can be specified in UTL::QRY, ERR to retrieve the contents of the DACS II error recovery log file which contains the data for this error recovery event.

error analysis data

- Troubleshooting data.

The error analysis data consists of three two-byte hexadecimal numbers. For explanatory purposes only these numbers are labeled below as a1b1, c1c2, and f1f2. Each byte of a number consists of two hexadecimal characters.

byte      Explanation

a1      Circuit pack identifier

b1      Hardware Firmware version

c1      Communications Interface (CI) esr 1

c2      CI esr 2

f1      FLI esr 1

f2      FLI esr 2

**COND** - Condition

**cc** - Hexadecimal condition code

**cc**    *Explanation*

|           |                                         |
|-----------|-----------------------------------------|
| <b>02</b> | Firmware error                          |
| <b>03</b> | Transmit underrun threshold exceeded    |
| <b>04</b> | Bad EMXR Acknowledgement                |
| <b>05</b> | Timeout while waiting for msg from EMXR |
| <b>06</b> | RAM data error                          |
| <b>07</b> | Invalid code checksum                   |
| <b>08</b> | Error in PRISM register                 |
| <b>09</b> | Error in HSCC register                  |
| <b>0A</b> | EPROM checksum error                    |
| <b>0B</b> | Timer 1 error                           |
| <b>0C</b> | Timer 2 error                           |
| <b>0D</b> | DUART error                             |
| <b>0E</b> | MIU access error                        |
| <b>12</b> | FLI register bit stuck                  |
| <b>13</b> | FLI lock and key alarm                  |
| <b>3B</b> | FLI access error                        |
| <b>3C</b> | FLI communication link error            |
| <b>BA</b> | FLI loss of clock                       |
| <b>BB</b> | FLI loss of signal                      |
| <b>BC</b> | FLI circuit id error                    |
| <b>BD</b> | FLI frame sync or internal error        |
| <b>BE</b> | FLI address bus parity error            |
| <b>D2</b> | Source of error was not found           |
| <b>D6</b> | MIU communication link error            |

## **ERR,ESR,UNIT,FMT,TN,EVENT,COND**

### **ERROR RECOVERY FMT**

#### **Explanation Of Command**

This message indicates that a failure was detected in a formatter of a DS3 unit.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01402]

I hh:mm:ss xy,ww ERR[ ESR] UNIT [q]q FMT s TN dddd \  
EVENT eeee 2 LN MSG:  
<error analysis data> COND cc COMPL

### **Explanation Of Parameters**

---

**ERR** - Error recovery

**ESR** - Error source register

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**FMT** - Formatter

**s** - Side identifier of the FMT (0 or 1)

**TN** - Transaction

**dddd** - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

**EVENT** - Event

**eeee** - Event number

The event number can be specified in UTL::QRY, ERR to retrieve the contents of the DACS II error recovery log file which contains the data for this error recovery event.

error analysis data

- Twelve words of troubleshooting data each consisting of four hexadecimal characters (two hexadecimal bytes). The form and ordering of these words, as they would appear in the output message, is shown below labeled for explanatory purposes.

abm1 e0e1 r0r1 r2r3 r4s0 s1s2 s3s4 t0t1 t2t3 t4u0 u1u2 u3u4

|    |                  |
|----|------------------|
| a  | Circuit pack     |
| b  | Firmware version |
| m1 | Maintenance esr  |
| e0 | CI esr 0         |
| e1 | CI esr 1         |
| r0 | FMT 0RF esr 0    |
| r1 | FMT 1RF esr 0    |
| r2 | FMT 2RF esr 0    |
| r3 | FMT 3RF esr 0    |
| r4 | FMT 4RF esr 0    |
| s0 | FMT 0RF esr 1    |
| s1 | FMT 1RF esr 1    |
| s2 | FMT 2RF esr 1    |
| s3 | FMT 3RF esr 1    |
| s4 | FMT 4RF esr 1    |
| t0 | FMT 0RF esr 2    |
| t1 | FMT 1RF esr 2    |
| t2 | FMT 2RF esr 2    |
| t3 | FMT 3RF esr 2    |
| t4 | FMT 4RF esr 2    |
| u0 | FMT 0TF status   |
| u1 | FMT 1TF status   |
| u2 | FMT 2TF status   |
| u3 | FMT 3TF status   |
| u4 | FMT 4TF status   |

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                       |
|-----------|---------------------------------------|
| <b>33</b> | FMT TF control bus error              |
| <b>35</b> | FMT multiple TF network data error    |
| <b>36</b> | FMT single TF network data error      |
| <b>37</b> | FMT TF device or clock receiver error |
| <b>38</b> | FMT multiple TF clock error           |
| <b>39</b> | FMT single TF sync error              |
| <b>3A</b> | FMT multiple TF sync error            |
| <b>D1</b> | Source of error is unknown            |
| <b>D7</b> | FMT communication link error          |
| <b>F0</b> | FMT access error                      |

**cc**    *Explanation*

- F1**    FMT timing error
- F2**    FMT link id error
- F3**    FMT bus timeout
- F4**    FMT serial address parity error
- F5**    FMT 0-4TF timing error
- F6**    FMT 0-4TF timing error
- F7**    FMT error summary 1 stuck bit
- F8**    FMT timing error, RF data parity
- F9**    FMT error summary 2 stuck bit
- FA**    FMT lock override, active select or kill parity
- FB**    FMT FIFO or control PROM error
- FC**    FMT RF control bus error
- FD**    FMT RF port and monitor alarms
- FE**    FMT RF port alarm; no monitor alarms



## **ERR,ESR,UNIT,FTMI,TN,EVENT,COND**

### **ERROR RECOVERY UNIT FTMI**

#### **Explanation Of Command**

This autonomous message indicates that DACS II has detected an alarm on the unit's facility terminating module interface. The error type is indicated by the error condition code.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01363]

I hh:mm:ss xy,ww ERR[ ESR] UNIT [q]q FTMI b TN dddd \  
EVENT eeee 2 LN MSG:  
<error analysis data> COND cc COMPL

## **Explanation Of Parameters**

---

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**FTMI** - Facility Terminating Module Interface

**b** - FTMI No. (1 through 4)

**TN** - Transaction

**dddd** - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

**EVENT** - Event

**eeee** - Event number

The event number can be specified in UTL::QRY, ERR to retrieve the contents of the DACS II error recovery log file which contains the data for this error recovery event.

**ESR** - Error source register

The ESR keyword is not output if the register contents cannot be read.

**ERR** - Error recovery

### **error analysis data**

- Seven words of 4-digit hexadecimal data.

The words are labeled as follows:

aaaa bbbb cccc dddd eeee ffff gggg

**aaaa** - Board level register contents

**bbbb** - CIA device ESR contents

**cccc** - CIB device ESR contents

**dddd** - CIC device ESR contents

**eeee** - CIA device EMR contents

**ffff** - CIB device EMR contents

**gggg** - CIC device EMR contents

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                |
|-----------|--------------------------------|
| <b>40</b> | Bus Error Alarm                |
| <b>41</b> | CIA Device Error               |
| <b>42</b> | CIB Device Error               |
| <b>43</b> | CIC Device Error               |
| <b>44</b> | Pack can't be accessed         |
| <b>45</b> | Loss of timing alarm           |
| <b>46</b> | Chip ID Comparison             |
| <b>47</b> | Data Strobe Signal             |
| <b>48</b> | Address Parity Error           |
| <b>49</b> | FC Stuck Bit on FTMI           |
| <b>4A</b> | DDC Stuck Bit on FTMI          |
| <b>4B</b> | FTMI lost clock                |
| <b>D5</b> | Illegal/unknown condition code |

## **ERR,ESR,UNIT,MIU,TN,EVENT,COND**

### **ERROR RECOVERY MIU**

#### **Explanation Of Command**

This message reports that a failure was detected in a multiple interface unit of a DS3 unit.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01404]

I hh:mm:ss xy,ww ERR[ ESR] UNIT [q]q MIU c TN dddd \  
EVENT eeee 2 LN MSG:  
<error analysis data> COND cc COMPL

### **Explanation Of Parameters**

---

**ERR** - Error recovery

**ESR** - Error source register

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**MIU** - Multiplexer interface unit

**c** - the number identifier of the MIU (P 1 through 6)

**TN** - Transaction

**dddd** - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

**EVENT** - Event

**eeee** - Event number

The event number can be specified in UTL::QRY, ERR to retrieve the contents of the DACS II error recovery log file which contains the data for this error recovery event.

#### error analysis data

- Two and one half words of troubleshooting data. The First two words consist of four hexadecimal digits each (two hexadecimal bytes). The half word is only two hexadecimal digits. The form and order of these words in the message text is shown below where, for explanatory purposes only, the words have been labeled.

e1e2 f1s1 c1

| byte | Explanation |
|------|-------------|
|------|-------------|

|    |                |
|----|----------------|
| e1 | MIU error code |
|----|----------------|

|    |                  |
|----|------------------|
| e2 | MIU ESR register |
|----|------------------|

|    |                  |
|----|------------------|
| f1 | Firmware version |
|----|------------------|

|    |                  |
|----|------------------|
| s1 | Software version |
|----|------------------|

|    |              |
|----|--------------|
| c1 | Circuit pack |
|----|--------------|

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 01** CEC bit on PRISM not cleared
- 02** Firmware error
- 03** Transmit underrun threshold exceeded
- 04** Bad EMXR Acknowledgement
- 05** Timeout while waiting for msg from EMXR
- 06** RAM data error
- 07** Invalid code checksum
- 08** Error in PRISM register
- 09** Error in HSCC register
- 0A** EPROM checksum error
- 0B** Timer 1 error
- 0C** Timer 2 error
- 0D** DUART error
- 0E** MIU access error
- D6** MIU communication link error
- F2** MIU got reset
- F3** Timeout for Yellow Inhibit/Enable Request
- F4** Queue overflow error

## **ERR,ESR,UNIT,MXR,DEV,TN,EVENT,COND**

### **ERROR RECOVERY MXR**

#### **Explanation Of Command**

This message indicates a failure was detected in a multiplexer of a DS3 Unit.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01403]

I hh:mm:ss xy,ww ERR[ ESR] UNIT [q]q MXR c[ DEV <devc>] \  
TN dddd EVENT eeee 2 LN MSG:  
<error analysis data> COND cc COMPL

### **Explanation Of Parameters**

---

**ESR** - Error source register

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**MXR** - Multiplexer

**c** - MXR number (P, 1 through 6)

**TN** - Transaction

**dddd** - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

**EVENT** - Event

**eeee** - Event number

The event number can be specified in UTL::QRY, ERR to retrieve the contents of the DACS II error recovery log file which contains the data for this error recovery event.



**DEV** - Device

**devc** - Device identifier

The devices for the KCR1-MXR circuit pack introduced in Release 4.0 are:

| <i>devc</i> | <i>Explanation</i>                         |
|-------------|--------------------------------------------|
| DS3         | General devices                            |
| M12x        | M12 devices (x = 1 through 7)              |
| M23         | M23 device                                 |
| PIF         | Processor Interface                        |
| HSC         | High-level Serial Communication Controller |
| CCxx        | Channel Controller (xx = 1 through 14)     |
| TXyy        | Transceiver devices (yy = 1 through 28)    |

The devices for the KCR5-EMXR circuit pack introduced in Release 6.0 are:

| <i>devc</i> | <i>Explanation</i>                                           |
|-------------|--------------------------------------------------------------|
| DS3         | General devices                                              |
| M12x        | M12 devices (x = 1 through 7)                                |
| M23         | M23 device                                                   |
| URT         | Dual Universal Asynchronous Receiver and Transmitter         |
| HSCy        | High-level Serial Communication Controller (y = 1 through 2) |
| TMR         | Timer device                                                 |
| CCxx        | Channel Controller (xx = 1 through 14)                       |
| TXyy        | Transceiver devices (yy = 1 through 28)                      |

## error analysis data

**- For the KCR1-MXR circuit pack introduced in Release 4.0,**

this data may be output with 0 to 10 fields depending upon the error condition. Each field contains a four-digit hexadecimal number representing troubleshooting data. For identification purposes these fields are labeled as shown below and would appear in the order shown within the message.

m1s1 m2s2 m3s3 h1h2 x1x2 x3x4 y1y2 z1z2 [d1d2 d3d4]

|    |                                                      |
|----|------------------------------------------------------|
| m1 | MXR mask register 1                                  |
| s1 | MXR error source register 1                          |
| m2 | MXR mask register 2                                  |
| s2 | MXR error source register 2                          |
| m3 | MXR mask register 3                                  |
| s3 | MXR error source register 3                          |
| h1 | Hardware error summary 1                             |
| h2 | Hardware error summary 2                             |
| x1 | Transceiver device register 1                        |
| x2 | Transceiver device register 2                        |
| x3 | Transceiver device register 3                        |
| x4 | Transceiver device register 4                        |
| y1 | M13 device ID register                               |
| y2 | Channel controller ESR register                      |
| z1 | Circuit ID & version                                 |
| z2 | Not used                                             |
| d1 | Byte 1 of devc data                                  |
| d2 | Byte 2 of devc data (not used for device CC)         |
| d3 | Byte 3 of devc data (not used for device CC)         |
| d4 | Byte 4 of devc data (not used for devices CC and TX) |

**- For the KCR5-EMXR circuit pack introduced in Release 6.0,**

this data may be output with 0 to ?? fields depending upon the error condition. Each field contains a four-digit hexadecimal number representing troubleshooting data. For identification purposes these fields are labeled as shown below and would appear in the order shown within the message.

## Data Fields

|    |             |
|----|-------------|
| d1 | Description |
| d2 | Description |
| .  | .           |
| .  | .           |
| .  | .           |
| dn | Description |

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                                     |
|-----------|-----------------------------------------------------|
| <b>14</b> | MXR DS3 loss of signal                              |
| <b>15</b> | MXR unknown error                                   |
| <b>34</b> | MXR M23 summary stuck error                         |
| <b>97</b> | MXR communication link error                        |
| <b>A6</b> | MXR channel controller transmit data error          |
| <b>A7</b> | MXR channel controller receiver data error          |
| <b>A8</b> | MXR channel controller exercise error               |
| <b>A9</b> | MXR channel controller stuck bit error              |
| <b>AA</b> | MXR transceiver framer error                        |
| <b>AB</b> | MXR transceiver receive sync error                  |
| <b>AC</b> | MXR transceiver transmitter error                   |
| <b>AD</b> | MXR M23 device error                                |
| <b>AE</b> | MXR M12 device error                                |
| <b>AF</b> | MXR M12 summary stuck error                         |
| <b>D5</b> | Illegal/unknown condition code                      |
| <b>D8</b> | MXR ROM error                                       |
| <b>D9</b> | MXR LCA error                                       |
| <b>DA</b> | MXR queue overflow                                  |
| <b>DB</b> | MXR channel controller loss of clock                |
| <b>DC</b> | MXR channel controller frame sync error             |
| <b>DD</b> | MXR channel controller configuration register error |
| <b>DE</b> | MXR channel controller instruction ram error        |
| <b>DF</b> | MXR channel controller parity error                 |
| <b>E1</b> | MXR access error (can't access pack)                |
| <b>E2</b> | MXR hard error stuck bit                            |
| <b>E3</b> | MXR facility error stuck bit                        |
| <b>E4</b> | MXR pack is in reset state                          |
| <b>E5</b> | MXR PIF Bus Parity Error                            |
| <b>E6</b> | MXR loss of clock from unselected FLI               |
| <b>E7</b> | MXR 45MHz is not phase locked to system clock       |
| <b>E8</b> | MXR firmware error                                  |
| <b>E9</b> | MXR HSCC device error                               |
| <b>EA</b> | MXR PIF I/O device error                            |
| <b>EB</b> | MXR M13 summary stuck bit error                     |
| <b>EC</b> | MXR transceiver summary stuck bit error             |
| <b>ED</b> | MXR program error                                   |
| <b>EF</b> | MXR RAM error                                       |
| <b>F0</b> | EMXR Timer error                                    |
| <b>F1</b> | EMXR DUART error                                    |

## **ERR,ESR,UNIT,UC,UBX,TN,EVENT,COND**

### **ERROR RECOVERY UNIT**

#### **Explanation Of Command**

This message reports that DACS II detected an alarm on a given units' unit controller or unit bus extender.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01361]

I hh:mm:ss xy,ww ERR[ ESR] UNIT [q]q {UC|UBX} TN dddd \  
EVENT eeee 2 LN MSG:  
<error analysis data> COND cc COMPL

### **Explanation Of Parameters**

---

**ERR** - Error recovery

**ESR** - Error source register

The ESR keyword is not output if the register contents cannot be read.

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**UC** - Unit controller

**UBX** - Unit bus extender

**TN** - Transaction

**dddd** - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

**EVENT** - Event

**eeee** - Event number

The event number can be specified in UTL::QRY, ERR to retrieve the contents of the DACS II error recovery log file which contains the data for this error recovery event.

#### **error analysis data**

- 2 to 8 words, depending on the unit type, of four hexadecimal digits each containing troubleshooting data.

For a DS3U the words are labeled as follows:

ire0, ire1, ire2, cies, irm0, irm1, irm2, cima

**ire0** - Error source register 0

**ire1** - Error source register 1

**ire2** - Error source register 2

**cies** - Communications interface error source register

**irm0** - MASK register 0

**irm1** - MASK register 1

**irm2** - MASK register 2

**cima** - Communications interface MASK register

For an FTU the words are labeled as follows:

aabb eeff

- aa** - CPU interrupt mask register contents
- bb** - CPU interrupt holding register contents
- ee** - UBX interrupt mask register contents
- ff** - UBX interrupt holding register contents

For a DSPU the words are labeled as follows:

aaaa bbbb cccc dddd eeee ffff

- aaaa** - CPU interrupt holding register contents
- bbbb** - CPU interrupt mask register contents
- cccc** - DSPI interrupt capturing register 0 contents
- dddd** - DSPI interrupt mask register 0 contents
- eeee** - DSPI interrupt capturing register 1 contents
- ffff** - DSPI interrupt mask register 1 contents

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 00** No conditions
- 0F** CPU internal bus error
- 10** CPU parallel bus parity error
- 11** CPU serial bus parity error
- 31** Sanity Time-out
- D0** CPU RAM Parity error
- D1** Source of error is unknown
- D2** Source of error was not found
- D3** Stuck bit in register
- D4** Bad UBX pack
- D5** Illegal/unknown condition code

## **ERR,HARDWARE,TN,COND,EVENT,ACTION**

### **ERROR RECOVERY HARDWARE**

#### **Explanation Of Command**

This message is printed out when applications software attempted some operation on a circuit, but that operation failed. The type of failure is indicated in the condition code. The applications software may have requested some autonomous action on the circuit and that action will be reflected with an autonomous request for removal and/or diagnostics. Additional information can be gathered by querying the error recovery log file, but this will require technical assistance for interpretation.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01392]

```
I hh:mm:ss xy,ww  ERR HARDWARE <entity> 4 LN MSG:
  TN=dddd COND=cc EVENT=xxxx ACTION=<action>
  SOURCE=<source> DP=<dp> PROC=<proc> <load>
  TSARGS=cn [<tsargs>]  COMPL
```

## **Explanation Of Parameters**

---

**ERR** - Error recovery

**HARDWARE**

- Hardware

**TN** - Transaction

**dddd** - Transaction number (hexadecimal)

The TN number can be specified in UTL::QRY,ERR to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

**COND** - Condition

**EVENT** - Event

**xxxx** - Event number

**SOURCE** - Source

**source** - Source filename

DACS II internal software filename (up to 12 characters)

**DP** - Decision point

**dp** - Decision point value

Number associated with a particular location in the software file specified in the "source" field. Value is 0- to 8-digit positive decimal number.

**ACTION** - Action

**action** - Action to be taken

| <i>(CBaction</i> | <i>Explanation</i>            |
|------------------|-------------------------------|
| REPORT           | Report only, no action        |
| REMOVE           | Remove processor from service |

**PROC** - Process

**proc** - Process value

**TSARGS** - Trouble shooting arguments

**cn** - The number of trouble shooting arguments that follow (00 through 10)

**tsargs** - List of "count" trouble shooting arguments



**load** - Load number

The load number is a ten digit number of the following form:

abcdefghij

|    |                             |
|----|-----------------------------|
| ab | software generic number     |
| cd | software point issue number |
| ef | software release number     |
| gh | year                        |
| ij | load number                 |

**entity** - DACS II entity involved

**entity**

BTS s  
CCB sf  
CCI s  
CCNI s s  
ETSI sqq  
LINK n  
NPC [s]abc[-[t]def][SIDE s]  
NPC uvmp[-wxkqr][SIDE s]  
SYNC s  
SYNC s TLI m  
TSI sft  
UC [q]q  
UNIT [q]q DSPI  
UNIT [q]q FC sb  
UNIT [q]q FTMI b  
UNIT [q]q MXR n DEV devc  
UNIT [q]q UBX  
UNIT [q]q MIU I  
UNIT [q]q FLI d  
UNIT [q]q FMT k  
UNIT [q]q MMFG y

**cc** - Hexadecimal condition code

**cc**    *Explanation*

|           |                                           |
|-----------|-------------------------------------------|
| <b>E0</b> | Hardware database mismatch                |
| <b>E1</b> | Hardware Failure                          |
| <b>E2</b> | Hardware Boot Failed                      |
| <b>E3</b> | Can't access link                         |
| <b>E4</b> | Transmit Time-out                         |
| <b>E5</b> | Receiver Time-out                         |
| <b>E6</b> | softerr failure which forces link removal |
| <b>E7</b> | Unit could not be reset                   |

**cc**    *Explanation*

- E8**    Unit failed sanity check
- E9**    failure to insert TCC
- EA**    failure to remove TCC
- EB**    failed to switch CCN sides
- EC**    NPC's facility queue overflow condition
- ED**    Duplex entity failed diagnostics
- EE**    Lost Clear-To-Send signal on X.25 links
- EF**    Frame Audit reboot DDC failure
- F5**    Packet layer parameters are mismatched between DACS II and the network
- F6**    Failed to write XPC register
- F7**    Transmit time-out because Clear To Send lost
- F8**    R20 counter reaches limit
- F9**    T3 timer expires
- FA**    Too many interrupts or illegal interrupt from XPC

## **ERR,LINK,TN,STATUS**

### **ERROR RECOVERY**

#### **Explanation Of Command**

This message reports that error recovery was called to handle an error occurring in an administrative link.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01321]

I hh:mm:ss xy,ww    ERR LINK a TN dddd STATUS a0 a1 a2 COMPL

## Explanation Of Parameters

**ERR** - Error recovery

**LINK** - Link

**a** - Link number (1 through 6)

**TN** - Transaction

**dddd** - Transaction number

**STATUS** - Status

**a0,**

**a1,**

**a2** - Status data

The following status data is for asynchronous links.

**a0** - Message code

| <i>a0</i> | <i>Explanation</i> |
|-----------|--------------------|
|-----------|--------------------|

|    |                                   |
|----|-----------------------------------|
| 00 | Link has gone protocol in-service |
|----|-----------------------------------|

|    |                                       |
|----|---------------------------------------|
| 01 | Link has gone protocol out-of-service |
|----|---------------------------------------|

**a1** - Link mode status

| <i>a1</i> | <i>Explanation</i> |
|-----------|--------------------|
|-----------|--------------------|

|    |      |
|----|------|
| 00 | Idle |
|----|------|

|    |                           |
|----|---------------------------|
| 01 | Input message in progress |
|----|---------------------------|

|    |                            |
|----|----------------------------|
| 02 | Output message in progress |
|----|----------------------------|

**a2** - Link interrupt register (hexadecimal)

Bit numbering 76543210

| <i>Bit</i> | <i>Explanation</i> |
|------------|--------------------|
|------------|--------------------|

|   |                |
|---|----------------|
| 7 | Received break |
|---|----------------|

|   |              |
|---|--------------|
| 6 | Parity error |
|---|--------------|

|   |               |
|---|---------------|
| 5 | Framing error |
|---|---------------|

|   |               |
|---|---------------|
| 4 | Overrun error |
|---|---------------|

|   |                   |
|---|-------------------|
| 3 | Transmitter empty |
|---|-------------------|

|   |                   |
|---|-------------------|
| 2 | Transmitter ready |
|---|-------------------|

|   |               |
|---|---------------|
| 1 | Receiver full |
|---|---------------|

|   |                |
|---|----------------|
| 0 | Receiver Ready |
|---|----------------|

If bits 4, 5, and 6 are all set (equal to 1) simultaneously it indicates a transmission error.

The following status data is for synchronous links.

| <i>a0</i> | <i>Explanation</i>                     |
|-----------|----------------------------------------|
| 00        | Session established on virtual circuit |
| 01        | Session closed on virtual circuit      |

| <i>a1</i> | <i>Explanation</i> |
|-----------|--------------------|
| 00        | always set to 00   |

**a2** - Virtual circuit number (hexadecimal)

| <i>a2</i> | <i>Virtual circuit number</i> |
|-----------|-------------------------------|
| 01        | 1                             |
| 02        | 2                             |
| 03        | 3                             |
| 04        | 4                             |
| 05        | 5                             |
| 06        | 6                             |
| 07        | 7                             |
| 08        | 8                             |
| 09        | 9                             |
| 0A        | 10                            |
| 0B        | 11                            |
| 0C        | 12                            |
| 0D        | 13                            |
| 0E        | 14                            |
| 0F        | 15                            |
| 10        | 16                            |

## **ERR,MSG,TO,LOG,DISCARDED**

### **ERROR RECOVERY**

#### **Explanation Of Command**

This autonomous message reports that due to large numbers of error reports being passed through the system, not all transient error events were transferred to the disk. Logging will resume automatically when activity decreases to a manageable level.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01337]

I hh:mm:ss xy,ww ERR MSGS TO LOG DISCARDED COMPL

### **Explanation Of Parameters**

---

**ERR** - Error recovery

**MSGs** - Messages

**TO** - To

**LOG** - Log

**DISCARDED**  
- Discarded

## **ERR,PMEM,SMEM,TN,EVENT,COND**

### **REPORT MEMORY CARD ERROR**

#### **Explanation Of Command**

This autonomous message reports that a hardware error has been detected on the Primary Memory Card (PMEM) or the Secondary Memory Card (SMEM). The message identifies the source of the error by displaying error and status registers. Each bit in a register corresponds to a particular type of error. A specific error exists when its corresponding bit is set to one.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01315]

I hh:mm:ss xy,ww ERR {PMEM|SMEM} TN dddd EVENT eeee COND cc COMPL



### **Explanation Of Parameters**

---

**ERR** - Error

**PMEM** - Primary memory card.

**SMEM** - Secondary memory card.

**TN** - Transaction Number

**dddd** - Four digit (hexadecimal) transaction number

The transaction number is a unique tag used to identify a specific event that is recorded in the error recovery log. Specific events may be retrieved from the error log using message I.55011 if the user knows their transaction numbers.

**EVENT** - Event

**eeee** - Four digit (hexadecimal) event number

The event number is a unique tag used to identify a specific event that is recorded in the error recovery log. Specific events may be retrieved from the error log using message I.55011 if the user knows their event numbers.

## **ERR,PWR,TN**

### **ERROR RECOVERY POWER**

#### **Explanation Of Command**

This message indicates that error recovery was called by DACS II because of a power failure on the frame.

This message also indicates which power supply failed. The 4-digit hexadecimal "fields" of the error status register indicate the failed power source(s). These hexadecimal values must be decoded into their individual bits. A bit set to 1 indicates an errored power source.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01301]

I hh:mm:ss xy,ww ERR PWR aaaa bbbb cccc dddd TN dddd COMPL

## Explanation Of Parameters

**PWR** - Power

**ERR** - Error recovery

**aaaa** - EMTC ESR0

aaaa is a four-digit hexadecimal number representing the sixteen bits of ESR0. Each bit of this register contains the status of an individual power source. A power source has failed if the bit corresponding to it is set to 1.

| bit # | Explanation                                  |
|-------|----------------------------------------------|
| 15-12 | Unused                                       |
| 11    | CCN/ECCN 1 PWR failure                       |
| 10    | CCN/ECCN 0 PWR failure                       |
| 9     | SYNC 1 PWR failure                           |
| 8     | SYNC 0 PWR failure                           |
| 7     | Unit 7 PWR failure                           |
|       | Unused if non-Capacity Expansion Frame (CEF) |
| 6     | Unused                                       |
| 5     | Unit 6 PWR failure                           |
| 4     | Unit 5 PWR failure                           |
| 3     | Unit 4 PWR failure                           |
| 2     | Unit 3 PWR failure                           |
| 1     | Unit 2 PWR failure                           |
| 0     | Unit 1 PWR failure                           |

**bbbb** - EMTC ESR1

bbbb is similar to aaaa above but represents the sixteen bits of ESR1.

| bit # | Explanation                                                                                               |
|-------|-----------------------------------------------------------------------------------------------------------|
| 15-14 | Unused                                                                                                    |
| 13    | The +12 V disk and tape power unit has failed<br>(484GA, 484GB, or 484GC)                                 |
| 12    | The +5 V main controller power unit has failed<br>(411AA, 411AB, or 411AC)                                |
|       | OR                                                                                                        |
|       | the +/-12 V main controller power unit for communication<br>links has failed<br>(SM565, SM624, or SM565B) |
| 11-00 | Unused                                                                                                    |

**cccc** - EMTC ESR2 (Reserved for future use)

**dddd** - EMT3 ESR3 (Unused if non-CEF)

dddd is similar to aaaa above but represents the sixteen bits of ESR3.

| bit # | Explanation         |
|-------|---------------------|
| 15-9  | Unused              |
| 8     | Unit 16 PWR failure |
| 7     | Unit 15 PWR failure |
| 6     | Unit 14 PWR failure |
| 5     | Unit 13 PWR failure |
| 4     | Unit 12 PWR failure |
| 3     | Unit 11 PWR failure |
| 2     | Unit 10 PWR failure |
| 1     | Unit 9 PWR failure  |
| 0     | Unit 8 PWR failure  |

**TN** - Transaction

**dddd** - Transaction number

The TN number can be specified by the UTL::QRY,ERR message to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

## **ERR,SOFTWARE,MC,ERROR,MID,TN,RC,ACTION**

### **ERROR RECOVERY SOFTWARE**

#### **Explanation Of Command**

This output message reports that an error was detected by the software in the indicated processor. The report also gives the error type, the source of the error, and the action taken.

The action taken should be sufficient to recover from the problem, in which case no craft action is necessary. Or the action taken was to isolate the problem and prevent system inconsistencies. In this case, manual action will be required to restore the appropriate entities.

#### **⇒ NOTE:**

All new or unknown occurrences of this error should be reported to the development organizations immediately.

The word "SOFTWARE", in the message text, is replaced by "MC" when the error type is "DISK" or "TAPE".

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

[O.01362]

```
I hh:mm:ss xy,ww   ERR {SOFTWARE|MC} <error type> ERROR 4 LN MSG:
MID=<mid>   TN=dddd RC=<rc> ACTION=<action>   ENTITY=<entity>
SOURCE=<source>   DP=<dp>   PROC=<proc>
TSARGS=<tsargs>   COMPL
```

### Explanation Of Parameters

[illegible]

## SOFTWARE

- Software

**MC** - Main controller

**TN** - Transaction

**dddd** - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the content of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

**error type**

- Type of error

| <i>error type</i> | <i>Explanation</i>                                                   |
|-------------------|----------------------------------------------------------------------|
| CHECKSUM          | Text or data checksum error                                          |
| COMMUNICATION     | Difficulty talking to remove<br>processes of processors              |
| CPUDGN            | CPU diagnostic failed                                                |
| DATA BASE         | Error in data base access                                            |
| DBCHECKSUM        | Data base checksum error                                             |
| DISK              | Trouble accessing disk                                               |
| EXCESSIVE INT     | Too many error recovery calls                                        |
| HARDWARE          | External hardware failure                                            |
| JOURNAL           | Trouble sending journal to disk                                      |
| PROGRAM           | Program error, bad internal data passed                              |
| RAMTEST           | Internal RAM test failed                                             |
| RECOVERY          | Internal recovery error                                              |
| REMOTE PROGRAM    | Program error encountered on other<br>processor local process report |
| TAPE              | Trouble accessing tape                                               |
| VMACHINE          | Operating system or interface problem                                |

**ERROR** - Error

**SOURCE** - Source

**source** - Internal DACS II software filename (12 characters)

**DP** - Decision point

**dp** - Decision point value (0- to 8-digit positive decimal number)

Number associated with a specific point in the file specified in  
the source field.

**RC** - Return code

**rc** - Return code value (0- to 8-digit positive or negative number)

Number returned by an internal function.

**ACTION** - Action

**action** - Action to be taken

| <i>action</i> | <i>Explanation</i>                                        |
|---------------|-----------------------------------------------------------|
| RSCOLDBT      | Super Cold Boot                                           |
| REPORT        | Report only, no action                                    |
| HWBOOT        | Hardware boot (boot of processor with existing data base) |
| WMBOOT        | Warm boot (boot of processor with disk data base)         |
| CDBOOT        | Cold boot (boot of processor programs and data base)      |
| REMOVE        | Remove processor from service                             |
| MCOND         | Put frame into MCOND                                      |
| PARK          | Stop processor immediately                                |

**ENTITY** - Entity

**entity** - Entity identifier

| <i>entity</i> | <i>Explanation</i>                     |
|---------------|----------------------------------------|
| MP            | Action on Main Processor               |
| CI            | Action on Communication Interface      |
| MC            | Action on MC                           |
| UNIT [q]q     | Action on specific unit (1 through 16) |
| FRAME         | Frame wide action                      |

**MID** - Mailbox identifier

**mid** - Identifier

**PROC** - Process

**proc** - Process value

**TSARGS** - Trouble shooting arguments

**tsargs** - Trouble shooting arguments value



## **ERR,SYNC,MODE,FAST,HOLDOVER,NORMAL**

### **ERROR RECOVERY**

#### **Explanation Of Command**

This message reports that the active sync has switched to a new operating mode. Additional autonomous actions may be reported (that is, side switch) based on the state of the mate synchronizer.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01366]

```
I hh:mm:ss xy,ww  ERR SYNC a MODE {FAST|HOLDOVER|NORMAL}\
{MATE|CRO|TLI m SSP c} TN dddd  2 LN MSG:
<synchronizer status data bytes> COND cccc COMPL
```

### **Explanation Of Parameters**

---

|                 |                                                                                                                             |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------|
| <b>ERR</b>      | - Error recovery                                                                                                            |
| <b>SYNC</b>     | - Synchronizer                                                                                                              |
| <b>a</b>        | - Synchronizer number (0 or 1)                                                                                              |
| <b>MODE</b>     | - Mode<br>New synchronizer operating mode                                                                                   |
| <b>FAST</b>     | - Fast<br>Synchronizer is in fast phase locked loop mode                                                                    |
| <b>HOLDOVER</b> | - Holdover<br>Synchronizer is in holdover mode, or has a timing source but has not locked to it                             |
| <b>NORMAL</b>   | - Normal<br>Synchronizer is normal (locked to indicated reference)                                                          |
| <b>MATE</b>     | - Mate<br>Synchronizer is receiving timing from the mate synchronizer (that is, the synchronizer is locked to cross couple) |
| <b>CRO</b>      | - Clock reference oscillator<br>CRO synchronizer is receiving timing from a CRO                                             |
| <b>TLI</b>      | - Timing link interface                                                                                                     |
| <b>m</b>        | - TLI number (1 through 4)                                                                                                  |
| <b>SSP</b>      | - Synchronizer sync port                                                                                                    |
| <b>c</b>        | - SSP on TLI (0 or 1)                                                                                                       |
| <b>TN</b>       | - Transaction                                                                                                               |
| <b>dddd</b>     | - Transaction number                                                                                                        |
| <b>cccc</b>     | - Error recovery condition code                                                                                             |

## synchronizer status data bytes

- Synchronizer status information (hexadecimal)

Up to five bytes of synchronizer status data. The actual number of bytes output depends upon cccc. The bits of each byte are labeled abcdefgh in that order. The output will appear in the following order:

byte 1, byte 2, byte 3, byte 4, and byte 5.

### byte 1

| <i>bit</i> | <i>Explanation</i>          |
|------------|-----------------------------|
| a          | MC is down flag             |
| b          | SYNC is down flag           |
| c          | Mate SYNC is out-of-service |
| d          | Time Base is down           |

Timing link service status. A bit set to 1 indicates in-service.

| <i>bit</i> | <i>Explanation</i> |
|------------|--------------------|
| e          | TLI1               |
| f          | TLI2               |
| g          | TLI3               |
| h          | TLI4               |

byte 2 - Timing link (SSP) in-service status

A bit set to 1 indicates the indicated entity is in-service

| <i>bit</i> | <i>Explanation</i> |
|------------|--------------------|
| a          | SSP 0 on TLI 1     |
| b          | SSP 1 on TLI 1     |
| c          | SSP 0 on TLI 2     |
| d          | SSP 1 on TLI 2     |
| e          | SSP 0 on TLI 3     |
| f          | SSP 1 on TLI 3     |
| g          | SSP 0 on TLI 4     |
| h          | SSP 1 on TLI 4     |

**byte 3**

| <i>bit</i> | <i>Explanation</i>                                 |
|------------|----------------------------------------------------|
| a          | SYNC restart flag                                  |
| b          | Hardware summary, error on DPLL                    |
| c          | PLL summary, any major cross-couple error          |
| d          | Cross-couple summary, any major cross-couple error |
| e          | CRO summary error, any major CRO error             |
| fgh        | Not used                                           |

**byte 4**

| <i>bit</i> | <i>Explanation</i>                   |
|------------|--------------------------------------|
| ab         | Synchronizer architecture            |
| 00         | Slave in master slave configuration  |
| 01         | Master in master slave configuration |
| 10         | Mutual synchronization system        |
| cde        | Operational stratum field            |
| 000        | Domestic stratum 3                   |
| 011        | Domestic stratum 2                   |
| fg         | PLL locking mode field               |
| 00         | Normal                               |
| 01         | Fast                                 |
| 10         | Holdover                             |
| h          | Hit timing holdover field            |

**byte 5**

| <i>bit</i> | <i>Explanation</i>              |
|------------|---------------------------------|
| ab         | Active timing link source field |
| 00         | Holdover                        |
| 01         | Timing Link                     |
| 10         | Cross couple                    |
| 11         | CRO                             |
| cde        | Active link field               |
| 000        | TLI 1, SSP 0                    |
| 001        | TLI 1, SSP 1                    |
| 010        | TLI 2, SSP 0                    |
| 011        | TLI 2, SSP 1                    |
| 100        | TLI 3, SSP 0                    |
| 101        | TLI 3, SSP 1                    |
| 110        | TLI 4, SSP 0                    |
| 111        | TLI 4, SSP 1                    |
| fgh        | Not used                        |

**COND** - Condition

**cccc** - Hexadecimal condition code

**cccc** *Explanation*

|             |                               |
|-------------|-------------------------------|
| <b>EF00</b> | Unknown what sync switched to |
| <b>EF01</b> | SYNC switched to NORMAL mode  |
| <b>EF02</b> | SYNC switched to HOLDOVER     |
| <b>EF03</b> | SYNC switched to FAST mode    |
| <b>EF04</b> | SYNC switched TLIs/SSPs       |
| <b>EF05</b> | SYNC switched to cross couple |

## **ERR,SYNC,TLI,SSP,NPC,TN,ALM,LOS,LEN**

### **ERROR RECOVERY, SYNCHRONIZER**

#### **Explanation Of Command**

This message reports the results of the error recovery process on the synchronizer with the alarms cleared.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

#### **Nonhierarchical**

[O.01335]

```
I hh:mm:ss xy,ww  ERR SYNC a TLI m SSP b [NPC abc] \  
TN dddd  3 LN MSG:  
ALM[ LOS][ LEN][ EXJ][ PHS][ OOF][ MAJ][ MIN] CLR  
<byte 1> <byte 2> <byte 3> <byte 4> <byte 5> COND cccc COMPL
```

## Hierarchical

[O.01335]

I hh:mm:ss xy,ww ERR SYNC a TLI m SSP b [NPC uvmp] \  
TN dddd 3 LN MSG:  
ALM[ LOS][ LEN][ EXJ][ PHS][ OOF][ MAJ][ MIN] CLR  
<byte 1> <byte 2> <byte 3> <byte 4> <byte 5> COND cccc COMPL

## Explanation Of Parameters

|             |                                          |
|-------------|------------------------------------------|
| <b>ERR</b>  | - Error recovery                         |
| <b>SYNC</b> | - Synchronizer                           |
| <b>a</b>    | - SYNC number (0 or 1)                   |
| <b>TLI</b>  | - Timing link interface                  |
| <b>m</b>    | - TLI number (1 through 4)               |
| <b>SSP</b>  | - Synchronizer sync port                 |
| <b>b</b>    | - SSP number (0 or 1)                    |
| <b>NPC</b>  | - Network processing circuit             |
| <b>abc</b>  | - Nonhierarchical NPC number             |
| <b>uvmp</b> | - Hierarchical NPC number                |
|             | <b>uv</b> - Unit number                  |
|             | <b>m</b> - Module number                 |
|             | <b>np</b> - NPC number within the module |
| <b>TN</b>   | - Transaction                            |
| <b>dddd</b> | - Transaction number                     |
| <b>ALM</b>  | - Alarm                                  |
| <b>LOS</b>  | - Loss of signal                         |
| <b>LEN</b>  | - Loss of energy                         |
| <b>EXJ</b>  | - Excessive jitter                       |
| <b>PHS</b>  | - Phase step                             |

**00F** - Out of frame

**MAJ** - Major framing error rate

**MIN** - Minor framing error rate

**CLR** - Clear

**byte 1,**  
**byte 2,**

...,

**byte 5** - Synchronizer status bytes

Synchronizer status data in binary form. The number of data bytes ranges from 1 to 5, depending upon the synchronizer error type. These bytes are a coded form of the information shown in "explanation of error condition code". Each byte has eight bits labeled abcdefgh.

If Main Processor to Synchronizer communication has failed, Error Recovery may not get the correct status data from the Synchronizer. All bits in "synchronizer status data bytes" will then be set to 1 by default.

byte 1

| bit  | Explanation                             |
|------|-----------------------------------------|
| a    | Timing link equipped by MC              |
| b    | Timing link declared out-of-service     |
| c    | Timing link out-of-service due to error |
| d    | Associated Timing Extractor TLI error   |
| efgh | Not used                                |



**byte 2** - Priority weighting of link, a number from 1 through 8

**byte 3** - Framing format, line format, and frequency

bit Explanation

abc Framing format (valid only for TXB1 or TXB2 TLIs)

TXB1

000 D4

001 ESF

010 DDS

TXB2

000 CCS

001 ERSM

010 CAS0

011 CAS1

de Line format (valid only for TXB1 or TXB2 TLIs)

TXB1

00 Bipolar

01 B8ZS

TXB2

10 AMI

AA HDB3

fgh Frequency (TXUC TLI)

000 512 kHz

001 1.000 MHz

010 1.544 MHz

011 2.048 MHz

100 5.000 MHz

**byte 4** - Mixed status

bit Explanation

a Carrier failure alarm/loss of signal (TXB1, TXB2, and TXCC)

b Timing signal loss of energy

c Autobaud failure

d Frequency offset flag

e Excessive jitter

f Phase step

gh Not used

**byte 5** - Framing status

bit Explanation

a Out of frame

b Major framing error rate

c Major framing error rate

defgh Not used

**COND** - Condition

**cccc** - Error recovery condition code

**cccc** - Hexadecimal condition code

**cccc** *Explanation*

**E805** TL error cleared

## **ERR,SYNC,TLI,SSP,TN,ALM,LOS,LEN,EXJ**

### **ERROR RECOVERY**

#### **Explanation Of Command**

This message reports the results of the error recovery process on the synchronizer with the alarms set.

The errors can be of the following types:

- Loss of signal
- Loss of energy
- Excessive jitter
- Phase step
- Out of frame
- Major framing error rate
- Minor framing error rate

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

## Autonomous Message

---

### Nonhierarchical

---

[O.01333]

I hh:mm:ss xy,ww ERR SYNC a TLI m SSP b TN dddd 3 LN MSG:  
ALM[ LOS][ LEN][ EXJ][ PHS][ OOF][ MAJ][ MIN] SET  
<byte 1> <byte 2> <byte 3> <byte 4> <byte 5> COND cccc COMPL

### Hierarchical

---

[O.01333]

I hh:mm:ss xy,ww ERR SYNC a TLI m SSP b TN dddd 3 LN MSG:  
ALM[ LOS][ LEN][ EXJ][ PHS][ OOF][ MAJ][ MIN] SET  
<byte 1> <byte 2> <byte 3> <byte 4> <byte 5> COND cccc COMPL

## Explanation Of Parameters

---

|              |                                |
|--------------|--------------------------------|
| <b>ERR</b>   | - Error recovery               |
| <b>SYNC</b>  | - Synchronizer                 |
| <b>a</b>     | - SYNC number (0 or 1)         |
| <b>TLI</b>   | - Timing link interface        |
| <b>m</b>     | - TLI number (1 through 4)     |
| <b>SSP</b>   | - Synchronizer sync port       |
| <b>b</b>     | - SSP number (0 or 1)          |
| <b>uvmnp</b> | - Hierarchical NPC number      |
| <b>uv</b>    | - Unit number                  |
| <b>m</b>     | - Module number                |
| <b>np</b>    | - NPC number within the module |
| <b>TN</b>    | - Transaction                  |
| <b>dddd</b>  | - Transaction number           |
| <b>ALM</b>   | - Alarm                        |
| <b>LOS</b>   | - Loss of signal               |

**LEN** - Loss of energy

**EXJ** - Excessive jitter

**PHS** - Phase step

**00F** - Out of frame

**MAJ** - Major  
Major framing error rate

**MIN** - Minor  
Minor framing error rate

**SET** - Set

**COND** - Condition

**cccc** - Error recovery condition code

**byte 1,**  
**byte 2,**

...,

**byte 5** - Synchronizer status data bytes

The letters a through h used below are the names given to the individual bits in a synchronizer status data byte. The eight bits in each byte are labeled abcdefgh in left to right order.

**byte 1**

bit Explanation

a Timing link equipped by MC

b Timing link declared out-of-service

c Timing link out-of-service due to error

d Associated Timing Extractor TLI error

efgh Not used

**byte 2** - Priority weighting of link, a number from 1 through 8

**byte 3** - Framing format, line format, and frequency

bit Explanation

abc Framing format (valid only for TXB1 or TXB2 TLIs)

000 D4 (TXB1)

001 ESF (TXB1)

010 DDS (TXB1)

000 CCS (TXB2)

001 ERSM (TXB2)

010 CAS0 (TXB2)

011 CAS1 (TXB2)

de Line format (valid only for TXB1 or TXB2 TLIs)

00 Bipolar (TXB1)

01 B8ZS (TXB1)

10 AMI (TXB2)

AA HDB3 (TXB2)

fgh Frequency (TXUC TLI)

000 512 kHz

001 1.000 MHz

010 1.544 MHz

011 2.048 MHz

100 5.000 MHz

**byte 4** - Mixed status

bit Explanation

a Carrier failure alarm/loss of signal (TXB1, TXB2, and TXCC)

b Timing signal loss of energy

c Autobaud failure

d Frequency offset flag

e Excessive jitter

f Phase step

gh Not used

**byte 5** - Framing status

bit Explanation

a Out of frame

b Major framing error rate

c Major framing error rate

defgh Not used

**cccc** - Hexadecimal condition code

**cccc** *Explanation*

**E601** TL out of service or loss of signal

**E602** Timing Extractor type TLI has hardware problem

## **EXC,MACRO**

---

### **EXECUTE MACRO**

#### **Explanation Of Command**

---

This message requests the execution of macro **<name>**. The optional fields **p1**, **p2**, etc., specify parameters used in the macro.

To list the contents of a macro, use the **UTL QRY,LIST,MACRO** command, Message I.54131.

The **NULL** keyword may be used as a parameter.

#### **Command**

---

[I.39301]

```
EXC:FRM xy,SEQ ww:MACRO <macro name>[,(<p1>[,<p2>[,<p3>\  
[,...[,<p10>]]]])]!
```

#### **Completion Message**

---

[O.39301]

```
M hh:mm:ss xy,ww n[vv] EXC MACRO <macro name>\  
[ (<p1>[,<p2>[,<p3>[,...[,<p10>]]]])] COMPL
```

[O.39302]

```
M hh:mm:ss xy,ww n[vv] EXC MACRO <macro name> STOP \  
COMPL
```

[O.39303]

```
M hh:mm:ss xy,ww n[vv] EXC MACRO IN PROGRESS
```



### **Denial Message**

---

[O.39301.01]

M hh:mm:ss xy,ww n[vv] EXC MACRO <macro name> COND cc \  
DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

p1,  
p2,  
p3,

...,  
p10

- Macro parameter values (1 to 7 uppercase alphanumeric characters)

Within a macro a parameter is referred to by #nn. The # sign indicates a parameter reference follows and the nn indicates the position in the command line from which the parameter value will be taken. That is, if the parameter reference #03 is contained in a line within a macro then the third parameter on the EXC::MACRO command line will be substituted for each appearance of the parameter reference #03.

A maximum of 10 parameters can be specified.

**MACRO** - Macro

**macro name**

- Macro name (seven characters maximum length)

The name of a collection of DACS II commands executed as a group.

A macro name is a string of capitalized alphanumeric characters. There are two type of macros; public and private. A private macros is created by a user in space allocated to the user by the system administrator. Only the user that created it can execute or read (LIST) a private macro. A public macro is created by the system administrator and is executable and readable by all users. A public macro name must start with the letter "P". A private macro name must not start with the letter "P".

**STOP** - Indicates that macro execution is stopped

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 62** File is being accessed
- 64** File doesn't exist/can't be accessed
- 68** Incorrect language/addressing mode
- 69** Incorrect number of parameters
- D5** No user is logged in on the link/vc

---

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---

# FRADTS

---

This section documents the **FRADTS** command.

## **FRADTS,BMCMP**

---

### **FRAME AUDITS**

#### **Explanation Of Command**

---

This completed, autonomously-generated action message from frame audits indicates that the data in MC RAM did not match the data in the DISK. A similar message may be used for MC/UC mismatches.

#### **Command**

---

Not applicable.

#### **Completion Message**

---

Not applicable.

#### **Denial Message**

---

Not applicable.

#### **Autonomous Message**

---

[O.82003]

I hh:mm:ss xy,ww FRADTS BMCMP <ttt> d8 d7 d6 d5 d4 d3 d2 d1 COMPL

### **Explanation Of Parameters**

---

**ttt** - Entity name

*ttt*      *Explanation*

MP      Main processor

CI      Communications interface

U1-U16 Unit controller (1 through 16)

**d8** - Data base file number on disk

**d7** - Invalid page number divided by 100 ( $d7 / 100$ )

**d6** - Invalid page number modulo by 100 ( $d6 \% 100$ )

If RAM page checksum is invalid,  $d5 = d4 = d3 = d2 = d1 = FF$ .

If DACS II cannot get the disk data base file,  $d7 = d5 = FF$ .

## **FRADTS,DGN,DEV**

---

### **FRAME AUDITS DIAGNOSTICS**

#### **Explanation Of Command**

---

This autonomously-generated action message from frame audits indicates that an in-service diagnostic was run on the entity **ttt** for the element **eee** and the diagnostic test is complete.

#### **Command**

---

Not applicable.

#### **Completion Message**

---

Not applicable.

#### **Denial Message**

---

Not applicable.

#### **Autonomous Message**

---

[O.82001]

I hh:mm:ss xy,ww FRADTS DGN <ttt> <eee>[ DEV <devc>] d0 COMPL



## Explanation Of Parameters

**ttt** - Diagnosed entity name

**eee** - Element of diagnosed entity

| <i>ttt</i> | <i>eee</i> | <i>Explanation</i>                                                                                           |
|------------|------------|--------------------------------------------------------------------------------------------------------------|
| CRO        |            | Clock reference oscillator                                                                                   |
|            | 0smc       | s - Side number (0 or 1)<br>m - TLI number (1 through 4)<br>c - TLR number (1 or 2)                          |
| DSPI       |            | Digital signal processor interface                                                                           |
|            | 0qqr       | qq - Unit number (01 through 16)<br>r - DSPI number (3 through 6)                                            |
| FTMI       |            | Facility terminating module interface                                                                        |
|            | 0qqb       | qq - Unit number (01 through 16)<br>b - FTMI in the FTU (1 through 4)                                        |
| NPC        |            | Network processing circuit                                                                                   |
|            | nnnn       | NPC number (0001 through 2560)<br>(Does not include NPCs equipped in DS3 Units)                              |
| SYNC       |            | Synchronizer                                                                                                 |
|            | 000s       | s - Side number (0 or 1)                                                                                     |
| TLI        |            | Timing link interface                                                                                        |
|            | 00sm       | s - Side number (0 or 1)<br>m - TLI number (1 through 4)                                                     |
| TSI        |            | Time slot interchanger                                                                                       |
|            | 0sft       | s - Side number (0 or 1)<br>f - CCB number (1 through 6). FROM Unit<br>t - TSI number (1 through 6). TO Unit |

|       |                                                                               |
|-------|-------------------------------------------------------------------------------|
| ETSI  | Expanded time slot interchanger                                               |
| 0sqq  | s - Side number (0 or 1)<br>qq - Unit number (01 through 16)                  |
| UFC   | Format Converter                                                              |
| 0qqb  | qq - Unit number (01 through 16)<br>b - Format Converter number (1 through 4) |
| UNIT  | Unit                                                                          |
| 00qq  | qq - Unit number (01 through 16)                                              |
| FMT   | Formatter                                                                     |
| 0qq s | qq - Unit number (01 through 16)<br>s - Side number (0 or 1)                  |
| FLI   | Facility line interface                                                       |
| 0qqk  | qq - Unit number (01 through 16)<br>k - Identifier (k = S or P)               |
| MXR   | Multiplexer                                                                   |
| 0qqc  | qq - Unit number (01 through 16)<br>c - MXR identifier (1 through 6,P)        |
| MIU   | Multiple interface unit                                                       |
| 0qqc  | qq - Unit number (01 through 16)<br>c - MIU number (1 through 6,P)            |
| CCI   | Clock and control interface                                                   |
| 000s  | s - Side number (0 or 1)                                                      |

**DEV** - Device

**devc** - Device identifier

This optional field will be shown only if the entity is MXR.

*devc Explanation*

|      |                                            |
|------|--------------------------------------------|
| DS3  | General devices                            |
| M13  | M12 and M13 devices                        |
| PIF  | Processor Interface                        |
| HSC  | High-level Serial Communication Controller |
| CCxx | Channel Controller (xx = 1 through 14)     |
| TXyy | Transceiver devices (yy = 1 through 28)    |

**d0** - Return code from the diagnostic:

*d0 Explanation*

|    |                   |
|----|-------------------|
| FC | Failed diagnostic |
|----|-------------------|

## **FRADTS,FRCMP**

---

### **FRAME AUDITS**

#### **Explanation Of Command**

---

This autonomously-generated message indicates that test number **ttt** was run and that this frame audit found data in the incorrect state. The message also indicates that this frame audit has completed.

#### **Command**

---

Not applicable.

#### **Completion Message**

---

Not applicable.

#### **Denial Message**

---

Not applicable.

#### **Autonomous Message**

---

[O.82002]

**I hh:mm:ss xy,ww FRADTS FRCMP ttt[ d9 d8 d7 d6] d5 d4 d3 d2 d1 d0 COMPL**

## Explanation Of Parameters

---

**ttt** - Test Number

**d5-d0** - Hexadecimal data bytes

| <i>ttt</i> | <i>Explanation</i> |
|------------|--------------------|
|------------|--------------------|

|     |                                        |
|-----|----------------------------------------|
| 002 | FTU FTMI status flags are inconsistent |
|-----|----------------------------------------|

The FTMI equipage flag in the MP data base does not match the equipage flag in the UC data base.

|    |                             |
|----|-----------------------------|
| d0 | FTMI flag from MP data base |
| d1 | FTMI flag from UC data base |
| d2 | Not used                    |
| d3 | Not used                    |
| d4 | FTMI number                 |
| d5 | UNIT number                 |

|     |                                      |
|-----|--------------------------------------|
| 003 | FTU FC status flags are inconsistent |
|-----|--------------------------------------|

The FC equipage flag in the MP data base does not match the equipage flag in the UC data base.

|    |                           |
|----|---------------------------|
| d0 | FC flag from MP data base |
| d1 | FC flag from UC data base |
| d2 | Not used                  |
| d3 | FC side                   |
| d4 | FTMI number               |
| d5 | UNIT number               |

|     |                                                         |
|-----|---------------------------------------------------------|
| 004 | FTU FTMI left side equalization values are inconsistent |
|-----|---------------------------------------------------------|

The FTMI left side equalization values in the MP data base do not match those in the UC data base.

|    |                                                         |
|----|---------------------------------------------------------|
| d0 | Second byte of the equalization value from MP data base |
| d1 | First byte of the equalization value from MP data base  |
| d2 | Second byte of the equalization value from UC data base |
| d3 | First byte of the equalization value from UC data base  |
| d4 | FTMI number                                             |
| d5 | UNIT number                                             |

005 FTU FTMI right side equalization values are inconsistent

The FTMI right side equalization values in the MP data base do not match those in the UC data base.

- d0 Second byte of the equalization value from MP data base
- d1 First byte of the equalization value from MP data base
- d2 Second byte of the equalization value from UC data base
- d3 First byte of the equalization value from UC data base
- d4 FTMI number
- d5 UNIT number

006 FTU FTMI mode flags are inconsistent

The mode of the FTMI in the MP data base does not match the mode of the FTMI in the UC data base.

- d0 FTMI mode from MP data base
- d1 FTMI mode from UC data base
- d2 Not used
- d3 Not used
- d4 FTMI number
- d5 UNIT number

007 Unit flags are inconsistent

The UNIT equipage flag in the MP data base does not match the UNIT equipage flag in the unit data base.

- d0 UNIT flag from MP data base
- d1 UNIT flag from UC data base
- d2 Not used
- d3 Not used
- d4 Not used
- d5 UNIT number

008 Unit Cross-Connect side status flag is inconsistent

The Cross-Connect side status flag in the MP data base does not match the CCN/ECCN side status flag in the unit data base.

- d0 Cross-Connect side flag from MP data base
- d1 Cross-Connect side flag from UNIT data base
- d2 Not used
- d3 Not used
- d4 Cross-Connect side
- d5 UNIT number

009 DS3 FMT equipage inconsistent

FMT equipage in the MP data base is not consistent with that of the unit data base

d0 MP equipage flag  
d1 UA equipage flag  
d2 Not used  
d3 Not used  
d4 FMT Number  
d5 Unit Number

00A DS3 MXR equipage inconsistent

MXR equipage in the MP data base is not consistent with that of the unit data base

d0 MP data base equipage flag  
d1 UA data base equipage flag  
d2 Not used  
d3 Not used  
d4 MXR Number  
d5 Unit Number

00B DS3 MIU equipage inconsistent

MIU equipage in the MP data base is not consistent with that of the Unit data base

d0 MP data base equipage flag  
d1 UA data base equipage flag  
d2 Not used  
d3 Not used  
d4 MIU Number  
d5 Unit Number

00C DS3 FLI equipage inconsistent

FLI equipage in the MP data base is not consistent with that of the Unit data base

d0 MP equipage flag  
d1 UA equipage flag  
d2 Not used  
d3 Not used  
d4 FLI Number  
d5 Unit Number

00D    NPC Transmit Pseudo Framing Word is out of range

The Transmit Pseudo Framing Word is out of range in the MP data base

|    |                                                           |
|----|-----------------------------------------------------------|
| d0 | The Transmit Pseudo Framing Word of NPC from MP data base |
| d1 | Not used                                                  |
| d2 | Not used                                                  |
| d3 | Not used                                                  |
| d4 | NPC number                                                |
| d5 | UNIT number                                               |

00E    NPC Receive Pseudo Framing Word is out of range

The Receive Pseudo Framing Word is out of range in the MP data base

|    |                                                          |
|----|----------------------------------------------------------|
| d0 | The Receive Pseudo Framing Word of NPC from MP data base |
| d1 | Not used                                                 |
| d2 | Not used                                                 |
| d3 | Not used                                                 |
| d4 | NPC number                                               |
| d5 | UNIT number                                              |

00F    NPC AIS Alarm data are inconsistent

The AIS Alarm data of the NPC in the MP data base does not match that in the unit data base

|    |                                               |
|----|-----------------------------------------------|
| d0 | The AIS Alarm data of NPC from MP data base   |
| d1 | The AIS Alarm data of NPC from unit data base |
| d2 | Not used                                      |
| d3 | Not used                                      |
| d4 | NPC number                                    |
| d5 | UNIT number                                   |

011    FTU NPC flags are inconsistent

The FTU (or DSPU) NPC equipage flag in the MP data base does not match the FTU (or DSPU) NPC equipage flag in the Unit data base.

|    |                            |
|----|----------------------------|
| d0 | NPC flag from MP data base |
| d1 | NPC flag from UC data base |
| d2 | Not used                   |
| d3 | Not used                   |
| d4 | NPC number                 |
| d5 | UNIT number                |



012 FTU NPC insertion words are inconsistent

The FTU NPC insertion word in the MP data base does not match the FTU NPC insertion word in the UC data base.

- d0 NPC insertion word from MP data base
- d1 NPC insertion word from UC data base
- d2 Not used
- d3 Not used
- d4 NPC number
- d5 UNIT number

013 FTU NPC types are inconsistent

The type of the FTU NPC in the MP data base does not match the type of the FTU NPC in the UC data base.

- d0 NPC type from MP data base
- d1 NPC type from UC data base
- d2 Not used
- d3 Not used
- d4 NPC number
- d5 UNIT number

014 FTU NPC X option values are inconsistent

The X option of the FTU NPC in the MP data base does not match that in the UC data base.

- d0 Second byte of the X option of NPC from MP data base
- d1 First byte of the X option of NPC from MP data base
- d2 Second byte of the X option of NPC from UC data base
- d3 First byte of the X option of NPC from UC data base
- d4 NPC number
- d5 UNIT number

015 FTU NPC Y option values are inconsistent

The Y option of the FTU NPC in the MP data base does not match that in the UC data base.

- d0 Second byte of the Y option of NPC from MP data base
- d1 First byte of the Y option of NPC from MP data base
- d2 Second byte of the Y option of NPC from UC data base
- d3 First byte of the Y option of NPC from UC data base
- d4 NPC number
- d5 UNIT number

016 FTU NPC Z option values are inconsistent

The Z option of the FTU NPC in the MP data base does not match that in the UC data base.

- d0 Second byte of the Z option of NPC from MP data base
- d1 First byte of the Z option of NPC from MP data base
- d2 Second byte of the Z option of NPC from UC data base
- d3 First byte of the Z option of NPC from UC data base
- d4 NPC number
- d5 UNIT number

017 FTU NPC threshold values are inconsistent

The threshold value of the FTU NPC in the MP data base does not match that in the UC data base.

- d0 Second byte of the threshold value of NPC from MP data base
- d1 First byte of the threshold value of NPC from MP data base
- d2 Second byte of the threshold value of NPC from UC data base
- d3 First byte of the threshold value of NPC from UC data base
- d4 NPC number
- d5 UNIT number

018 FTU NPC Signaling field is inconsistent

The FTU NPC SIG field in the MP data base does not match the FTU NPC SIG field in the UC data base.

- d0 NPC SIG field from MP data base
- d1 NPC SIG field from UC data base
- d2 Not used
- d3 Not used
- d4 NPC number
- d5 UNIT number

019 FTU NPC TS0 bit value is inconsistent

The FTU NPC TS0 bits in the MP data base do not match the FTU NPC TS0 bits in the UC data base.

- d0 NPC TS0 bits from MP data base
- d1 NPC TS0 bits from UC data base
- d2 Not used
- d3 Not used
- d4 NPC number
- d5 UNIT number

01A FTU NPC loopback field is inconsistent

The FTU NPC LPBK field in the MP data base does not match the FTU NPC LPBK field in the UC data base.

- d0 NPC LPBK field from MP data base
- d1 NPC LPBK field from UC data base
- d2 Not used
- d3 Not used
- d4 NPC number
- d5 UNIT number

01B FTU NPC TS0M bit value is inconsistent

The FTU NPC TS0M bits in the MP data base do not match the FTU NPC TS0M bits in the UC data base.

- d0 NPC TS0M bits from MP data base
- d1 NPC TS0M bits from UC data base
- d2 Not used
- d3 Not used
- d4 NPC number
- d5 UNIT number

01C FTU syncmode value is inconsistent

The FTU syncmode in the MP data base does not match the FTU syncmode in the UC data base.

- d0 syncmode from MP data base
- d1 syncmode from UC data base
- d2 Not used
- d3 Not used
- d4 Not used
- d5 UNIT number

01D CPR channel modify activated information is inconsistent

The CPR channel modify activated information stored in UC data base does not match that stored in the MP data base.

- d0 Not used
- d1 Not used
- d2 Not used
- d3 Not used
- d4 FTU NPC number
- d5 UNIT number

01E NPC Insertion AIS values are inconsistent

The Insertion AIS of the NPC in the MP data base does not match that in the unit data base

- d0 The AIS Insertion of NPC from MP data base
- d1 The AIS Insertion of NPC from MP data base
- d2 Not used
- d3 Not used
- d4 NPC number
- d5 UNIT number

01F NPC alarm disable flag values are inconsistent

The alarm disable flag of the NPC in the MP data base does not match that in the unit data base

- d0 Second byte of the alarm disable flag of NPC from MP data base
- d1 First byte of the alarm disable flag of NPC from MP data base
- d2 Second byte of the alarm disable flag of NPC from unit data base
- d3 First byte of the alarm disable flag of NPC from unit data base
- d4 NPC number
- d5 UNIT number

021 CCN side entity flags are inconsistent

The equipage flag of the CCN side entity in the MP data base does not match that in the CCN data base.

- d0 CCN side flag from MP data base
- d1 CCN side flag from CCN data base
- d2 Not used
- d3 Not used
- d4 Not used
- d5 CCN side

022 CCN CCNI entity flags are inconsistent

The equipage flag of the CCN CCNI entity in the MP data base does not match that in the CCN data base.

- d0 CCNI flag from MP data base
- d1 CCNI flag from CCN data base
- d2 Not used
- d3 Not used
- d4 Not used
- d5 CCN side

023     CCN CCB entity flags are inconsistent

The equipage flag of the CCN CCB entity in the MP data base does not match that in the CCN data base.

- d0     CCB flag from MP data base
- d1     CCB flag from CCN data base
- d2     Not used
- d3     Not used
- d4     CCB number
- d5     CCN side

024     CCN TSI entity flags are inconsistent

The equipage flag of the CCN TSI entity in the MP data base does not match that in the CCN data base.

- d0     CCN TSI flag from MP data base
- d1     CCN TSI flag from CCN data base
- d2     Not used
- d3     CCB number - TO side
- d4     CCB number - FROM side
- d5     CCN side

025     CCN active side flags are inconsistent

The CCN active side reported by the MP data base does not match the CCN active side reported by the CCN data base.

- d0     CCN active side flag MP data base
- d1     CCN active side from CCN data base
- d2     Not used
- d3     Not used
- d4     Not used
- d5     Not used

026     ECCN side entity flags are inconsistent

The equipage flag of the ECCN side entity in the MP data base does not match that in the ECCN data base.

- d0     ECCN side flag from MP data base
- d1     ECCN side flag from ECCN data base
- d2     Not used
- d3     Not used
- d4     Not used
- d5     ECCN side

027 ECCN CCI entity flags are inconsistent

The equipage flag of the ECCN CCI entity in the MP data base does not match that in the ECCN data base.

- d0 CCI flag from MP data base
- d1 CCI flag from ECCN data base
- d2 Not used
- d3 Not used
- d4 Not used
- d5 ECCN side

028 ECCN ETSI entity flags are inconsistent

The equipage flag of the ECCN ETSI entity in the MP data base does not match that in the ECCN data base.

- d0 ECCN ETSI flag from MP data base
- d1 ECCN ETSI flag from ECCN data base
- d2 Not used
- d3 Not used
- d4 ETSI number
- d5 ECCN side

029 ECCN active side flags are inconsistent

The ECCN active side reported by the MP data base does not match the ECCN active side reported by the ECCN data base.

- d0 ECCN active side flag MP data base
- d1 ECCN active side from ECCN data base
- d2 Not used
- d3 Not used
- d4 Not used
- d5 Not used

02A NPC Transmit Pseudo Framing Words are inconsistent

The Transmit Pseudo Framing Word of the NPC in the MP data base does not match that in the unit data base

- d0 The Transmit Pseudo Framing word of NPC from MP data base
- d1 The Transmit Pseudo Framing word of NPC from unit data base
- d2 Not used
- d3 Not used
- d4 NPC number
- d5 UNIT number

02B NPC Receive Pseudo Framing Word values are inconsistent

The Receive Pseudo Framing Word of the NPC in the MP data base does not match that in the unit data base

- d0 The Receive Pseudo Framing Word of NPC from MP data base
- d1 The Receive Pseudo Framing Word of NPC from unit data base
- d2 Not used
- d3 Not used
- d4 NPC number
- d5 UNIT number

02C NPC Non Frame Word Setting values are inconsistent

The Non Frame Word Setting of the NPC in the MP data base does not match that in the unit data base

- d0 Fourth byte of the Non Frame Word Setting of NPC from MP data base
- d1 Third byte of the Non Frame Word Setting of NPC from MP data base
- d2 Fourth byte of the Non Frame Word Setting of NPC from unit data base
- d3 Third byte of the Non Frame Word Setting of NPC from unit data base
- d4 NPC number
- d5 UNIT number

02D NPC Transmit and Receive Pseudo Framing word values are inconsistent

The Transmit Pseudo Framing Word of a NPC does not match the Receive Pseudo Framing Word in the MP data base when one of them is set to the Non-Framing Word

- d0 The Transmit Pseudo Framing Word of NPC from MP data base
- d1 The Receive Pseudo Framing Word of NPC from MP data base
- d2 Not used
- d3 Not used
- d4 NPC number
- d5 UNIT number

032 DSPI entity flags are inconsistent

The equipage flag of the DSPI entity in the MP data base does not match that in the DSPU data base.

- d0 DSPI flag from MP data base
- d1 DSPI flag from UD data base
- d2 Not used
- d3 Not used
- d4 Not used
- d5 Unit number

033 HUB-ID value in data bases is inconsistent

The HUB-ID is inconsistent between the MP data base and the UD data base.

- d0 HUB-ID value from MP data base
- d1 HUB-ID value from UD data base
- d2 Not used
- d3 Not used
- d4 Not used
- d5 Unit number

034 NPC connected to a time slot is inconsistent

The NPC connected to a time slot in the MP data base does not match with the UD data base.

- d0 The connected NPC number from MP data base
- d1 The connected NPC number from UD data base
- d2 Not used
- d3 The time slot number
- d4 The NPC number
- d5 Unit number

035 Function block for a time slot is inconsistent

The function block connected to a time slot in the MP data base does not match with the UD data base.

- d0 The connected function block number from MP data base
- d1 The connected function block number from UD data base
- d2 Not used
- d3 The time slot number
- d4 The NPC number
- d5 Unit number

036 SRM customer number or MJU branch number is inconsistent

The SRM customer number or MJU branch number in the MP data base does not match with the UD data base.

- d0 The SRM customer number or MJU branch number from MP data base
- d1 The SRM customer number or MJU branch number from UD data base
- d2 Not used
- d3 The SRM number or the MJU number
- d4 The NPC number
- d5 Unit number



037 Time slot rate is inconsistent

The time slot rate in the MP data base does not match with that of the UD data base.

- d0 The time slot rate from MP data base
- d1 The time slot rate from UD data base
- d2 Not used
- d3 The time slot number
- d4 The NPC number
- d5 Unit number

038 Time slot functional usage is inconsistent

The functional usage in the MP data base does not match with that of the UD data base.

- d0 the functional usage from MP data base
- d1 the functional usage from UD data base
- d2 Not used
- d3 The time slot number
- d4 The NPC number
- d5 Unit number

039 SRDC unexpected errors

An unexpected error was encountered during Subrate Circuit audits.

- d0 The Unit where the error is found
- d1 Not used
- d2 Not used
- d3 Not used
- d4 Not used
- d5 Not used

03B DS3 FLI LBO data base inconsistent

FLI/Line Build Out in the MP data base is not consistent with that of the Unit data base

- d0 MP lbo
- d1 UA lbo
- d2 Not used
- d3 Not used
- d4 MXR Number
- d5 Unit Number

03C DS3 MXR data base flag inconsistent

MXR data base flag in the MP data base is not consistent with that of the Unit data base

- d0 MP data base flag
- d1 UA data base flag
- d2 Not used
- d3 Not used
- d4 MXR Number
- d5 Unit Number

03D DS3 MXR data base type inconsistent

MXR type in the MP data base is not consistent with that of the Unit data base

- d0 MP data base type
- d1 UA data base type
- d2 Not used
- d3 Not used
- d4 MXR Number
- d5 Unit Number

03E DS3 MXR data base xoption inconsistent

MXR 'x' option in the MP data base is not consistent with that of the Unit data base

- d0 MP data base xoption
- d1 UA data base xoption
- d2 Not used
- d3 Not used
- d4 MXR Number
- d5 Unit Number

03F DS3 MXR data base yoption inconsistent

MXR 'y' option in the MP data base is not consistent with that of the Unit data base

- d0 MP data base yoption
- d1 UA data base yoption
- d2 Not used
- d3 Not used
- d4 MXR Number
- d5 Unit Number

040 DS3 MXR data base zoption inconsistent

MXR 'z' option in the MP data base is not consistent with that of the Unit data base

- d0 MP data base zoption
- d1 UA data base zoption
- d2 Not used
- d3 Not used
- d4 MXR Number
- d5 Unit Number

041 DS3 MXR data base BER threshold inconsistent

MXR 'BER' threshold in the MP data base is not consistent with that of the Unit data base

- d0 MP data base ber threshold
- d1 UA data base ber threshold
- d2 Not used
- d3 Not used
- d4 Unit Number
- d5 MXR Number

042 DS3 MXR data base BER type inconsistent

MXR 'BER' type in the MP data base is not consistent with that of the Unit data base

- d0 MP data base ber type
- d1 UA data base ber type
- d2 Not used
- d3 Not used
- d4 Unit Number
- d5 MXR Number

043 DS3 MIU data base flag inconsistent

MIU data base flag in the MP data base is not consistent with that of the Unit data base

- d0 MP data base flag
- d1 UA data base flag
- d2 Not used
- d3 Not used
- d4 MIU Number
- d5 Unit Number

044 DS3 MIU data base type inconsistent

MIU data base type in the MP data base is not consistent with that of the Unit data base

|    |                   |
|----|-------------------|
| d0 | MP data base type |
| d1 | UA data base type |
| d2 | Not used          |
| d3 | Not used          |
| d4 | MIU Number        |
| d5 | Unit Number       |

045 DS3 MIU data base xoption inconsistent

MIU 'x' option in the MP data base is not consistent with that of the Unit data base

|    |                      |
|----|----------------------|
| d0 | MP data base xoption |
| d1 | UA data base xoption |
| d2 | Not used             |
| d3 | Not used             |
| d4 | MIU Number           |
| d5 | Unit Number          |

046 DS3 MIU data base yoption inconsistent

MIU 'y' option in the MP data base is not consistent with that of the Unit data base

|    |                      |
|----|----------------------|
| d0 | MP data base yoption |
| d1 | UA data base yoption |
| d2 | Not used             |
| d3 | Not used             |
| d4 | MIU Number           |
| d5 | Unit Number          |

047 DS3 MIU data base zoption inconsistent

MIU 'z' option in the MP data base is not consistent with that of the Unit data base

|    |                      |
|----|----------------------|
| d0 | MP data base zoption |
| d1 | UA data base zoption |
| d2 | Not used             |
| d3 | Not used             |
| d4 | MIU Number           |
| d5 | Unit Number          |

048 MMFG data base inhibit flag inconsistent

MMFG inhibit status in the MP data base is not consistent with that of the Unit data base

- d0 Protection switch data base flag
- d1 UA data base flag
- d2 Not used
- d3 Not used
- d4 Not used
- d5 Unit Number

049 MMFG data base protected status inconsistent

MMFG protected status in the MP data base is not consistent with that of the Unit data base

- d0 Protection switch data base status
- d1 UA data base status
- d2 Not used
- d3 Not used
- d4 Not used
- d5 Unit Number

04A MMFG data base protected index inconsistent

MMFG protected index in the MP data base is not consistent with that of the Unit data base

- d0 Protection switch data base index
- d1 UA data base index
- d2 Not used
- d3 Not used
- d4 Not used
- d5 Unit Number

04B MMFG data base protected mode inconsistent

MMFG protected mode in the MP data base is not consistent with that of the Unit data base

- d0 Protection switch data base mode
- d1 UA data base mode
- d2 Not used
- d3 Not used
- d4 Not used
- d5 Unit Number

04C MMFG data base service status of MXR P inconsistent

MXR-P service status in the MP data base is not consistent with that of the Unit data base

- d0 Protection switch data base status
- d1 UA data base status
- d2 Not used
- d3 Not used
- d4 Not used
- d5 Unit Number

04D MMFG data base service status of MIU P inconsistent

MIU-P service status in the MP data base is not consistent with that of the Unit data base

- d0 Protection switch data base status
- d1 UA data base status
- d2 Not used
- d3 Not used
- d4 Not used
- d5 Unit Number

050 Time slot partner is inconsistent

The time slot's partner time slot in the MP data base does not match with that of the UC data base.

- d0 The partner time slot from MP data base
- d1 The partner time slot from UC data base
- d2 Not used
- d3 The time slot number
- d4 The NPC number
- d5 Unit number

052 Time slot TLA state is inconsistent

The time slot's TLA state in the MP data base does not match with that of the UC data base.

- d0 The TLA state from MP data base
- d1 The TLA state from UC data base
- d2 Not used
- d3 The time slot number
- d4 The NPC number
- d5 Unit number

055 RTs external number is inconsistent

An RTs external number in the MP data base does not match with that of the UC data base.

- d0 Left byte of the RT external number in MP data base
- d1 Right byte of the RT external number in MP data base
- d2 Left byte of the RT external number in UC data base
- d3 Right byte of the RT external number in UC data base
- d4 Not used
- d5 The Unit of the RT

056 RTs digroup NPC number is inconsistent

An RTs digroup NPC number in the MP data base does not match with that of the UC data base (d3=2); An RTs digroup NPC number does not match with the associated DCLUs both in the MP data base (d3=1)

- d0 The RT digroup NPC number in MP data base
- d1 The RT digroup NPC number in UC data base
- d2 Index of the digroup (1,2,3,4,5 for DGA,DGB,DGC,DGD,DGP respectively)
- d3 Not used
- d4 The RT internal number
- d5 The Unit of the RT

057 RTs index of protected digroup is inconsistent

An RTs index of protected digroup in the MP data base does not match with that of the UC data base

- d0 The RT index of protected digroup in MP data base
- d1 The RT index of protected digroup in UC data base
- d2 Not used
- d3 Not used
- d4 The RT internal number
- d5 The Unit of the RT

058 RTs Zoption is inconsistent

An RTs Zoption in the MP data base does not match with that of the UC data base

- d0 The RT Zoption in MP data base
- d1 The RT Zoption in UC data base
- d2 Not used
- d3 Not used
- d4 The RT internal number
- d5 The Unit of the RT

059 RTs inhibit state is inconsistent

An RTs inhibit state in the MP data base does not match with that of the UC data base

- d0 The RT inhibit state in MP data base
- d1 The RT inhibit state in UC data base
- d2 Index of the digroup
- d3 Not used
- d4 The RT internal number
- d5 The Unit of the RT

05A SLC<sup>®</sup> carrier unexpected errors

An unexpected error is encountered during SLC carrier RT audits.

- d0 The Unit where the error is found
- d1 Not used
- d2 Not used
- d3 Not used
- d4 Not used
- d5 Not used

05B This entity is expected to be inservice and equipped

This entity (indicated in d0) is expected to be inservice and equipped.

- d0 1-frame; 2-Unit; 3-channel; 4-time slot;
- d1 The time slot number if applicable
- d2 the channel number if applicable
- d3 The NPC number if applicable
- d4 Unit number if applicable
- d5 Not used

05C Data base is inconsistent with the configuration file

Data in the MP data base do not agree with those in the configuration file.

- d0 Not used
- d1 Not used
- d2 Not used
- d3 Not used
- d4 Not used
- d5 Not used



060 RTs loopback state is inconsistent

An RTs loopback state in the MP data base does not match with that of the UC data base

- d0 The RT loopback state in MP data base
- d1 The RT loopback state in UC data base
- d2 Index of the digroup
- d3 Not used
- d4 The RT internal number
- d5 The Unit of the RT

061 RTs protection status is inconsistent

An RTs protection status in the MP data base does not match with that of the UC data base

- d0 The RT protection status in MP data base
- d1 The RT protection status in UC data base
- d2 Not used
- d3 Not used
- d4 The RT internal number
- d5 The Unit of the RT

062 RTs data link status is inconsistent

An RTs data link status in the MP data base does not match with that of the UC data base

- d0 The RT data link in MP data base
- d1 The RT data link in UC data base
- d2 Not used
- d3 Not used
- d4 The RT internal number
- d5 The Unit of the RT

063 RTs alarm class is inconsistent

An RTs alarm class in the MP data base does not match with that of the UC data base

- d0 The RT alarm class in MP data base
- d1 The RT alarm class in UC data base
- d2 Not used
- d3 Not used
- d4 The RT internal number
- d5 The Unit of the RT

064     RTs SLC carrier mode is inconsistent

An RTs SLC carrier mode in the MP data base does not match with that of the UC data base

- d0     The RT SLC carrier mode in MP data base
- d1     The RT SLC carrier mode in UC data base
- d2     Not used
- d3     Not used
- d4     The RT internal number
- d5     The Unit of the RT

065     Can not find an RT internal number for the associate DCLU of an RT.

Given an RT with SLC 96 carrier mode I or SLC series 5 carrier feature package B, it may have a DCLU with the external number being 10000 greater. But that external number cannot be retrieved from the MP data base.

- d0     Right byte of the DCLUs external number in MP data base
- d1     Left byte of the DCLUs external number in MP data base
- d2     Right byte of the RTs external number in MP data base
- d3     Left byte of the RTs external number in MP data base
- d4     The RT internal number
- d5     The Unit of the RT

066     Cannot find the associate DCLU of an RT.

Given an RT with SLC 96 carrier mode I or SLC series 5 carrier feature package B, it may have a DCLU with the external number being 10000 greater. But such DCLU is not found from the RT list in the MP data base.

- d0     Right byte of the DCLUs external number
- d1     Left byte of the DCLUs external number
- d2     Not used
- d3     Not used
- d4     The DCLU internal number
- d5     The Unit of the RT

069 Invalid internal MJU number or internal NPC number

An NPC indicates there is an MJU allocated to it, after the MJU query returns a different internal MJU number or that MJU is marked to allocate to another NPC.

- d0 the MJU number
- d1 The NPC number
- d2 the UNIT number
- d3 the MJU internal number from the query
- d4 the internal NPC number from the query
- d5 Not used

070 Inconsistent mapping between a facility channel and a time slot.

A channel is connected to a time slot but the time slot does not connect the channel in the MP data base.

- d0 the channel number
- d1 The NPC number
- d2 the UNIT number
- d3 The time slot
- d4 The time slot NPC
- d5 The time slot Unit

071 Inconsistent time slot mapping between a facility channel and a MVEC.

An MVEC is expected to connect to a facility channel but the MP data base shows the channel does not connect to the MVEC.

- d0 the channel number
- d1 The NPC number
- d2 the UNIT number
- d3 the MVEC time slot
- d4 the MVEC NPC
- d5 MVEC Unit

072 Inconsistent time slot mapping a channel to a PCHEC.

A PCHEC is expected to connect to a facility channel but the MP data base shows the channel does not connect to the PCHEC.

- d0 the channel number
- d1 The NPC number
- d2 the UNIT number
- d3 the PCHEC time slot
- d4 the PCHEC NPC
- d5 the PCHEC Unit

073 Inconsistent time slot mapping a channel to a PCHECs parity leg.

A PCHEC parity leg is expected to connect to a facility channel but the MP data base shows the channel does not connect to the leg.

d0 the channel number  
d1 The NPC number  
d2 the UNIT number  
d3 the PCHEC time slot  
d4 the PCHEC NPC  
d5 the PCHEC Unit

074 Inconsistent time slot mapping a channel to a PCHECs data leg

A PCHEC data leg is expected to connect to a facility channel but the MP data base shows the channel does not connect to the leg.

d0 the channel number  
d1 The NPC number  
d2 the UNIT number  
d3 the PCHEC time slot  
d4 the PCHEC NPC  
d5 the PCHEC Unit

076 Invalid time slot assignment to an MJU's master leg.

An MJU's master leg is expected to connect a time slot but the MP data base shows that the time slot does not connect to the master leg.

d0 the MJU number  
d1 The NPC number  
d2 the UNIT number  
d3 the MJU master leg index  
d4 Not used  
d5 Not used

077 Invalid time slot assignment to an MJU's branch leg.

An MJU's branch leg is expected to connect a time slot but the MP data base shows that the time slot does not connect to the branch leg.

d0 the MJU number  
d1 The NPC number  
d2 the UNIT number  
d3 the MJU branch leg  
d4 Not used  
d5 Not used

078 Inconsistent time slot mapping a channel to a PCHECs customer leg.

A PCHEC customer leg is expected to connect to a facility channel but the MP data base shows the channel does not connect to the leg.

d0 the channel number  
d1 The NPC number  
d2 the UNIT number  
d3 the PCHEC time slot  
d4 the PCHEC NPC  
d5 the PCHEC Unit

079 Cascaded MJUs do not have same rate.

An MJU is cascaded with MJU b, their rate must be the same.

d0 the MJU b number  
d1 The NPC number of MJU b  
d2 the UNIT number of MJU b  
d3 the MJU a number  
d4 The NPC number of MJU a  
d5 the UNIT number of MJU a

080 SRM rate is invalid

An SRM rate is invalid.

d0 The SRM number  
d1 The NPC number of SRM  
d2 the UNIT number of SRM  
d3 Not used  
d4 Not used  
d5 Not used

081 Invalid time slot assignment to an SRMs leg.

An SRMs branch leg is expected to connect a time slot but the MP data base shows that the time slot does not connect to the branch leg.

d0 The SRM number  
d1 The NPC number  
d2 the UNIT number  
d3 Index of SRM leg  
d4 Not used  
d5 Not used

084 A DS0A channel does not connect to an EC.

A DS0A channel is expected to connect to an error corrector through a time slot but the MP data base shows that the time slot does not connect to an error corrector.

- d0 the DS0A channel number
- d1 The NPC number of the channel
- d2 the UNIT number of the channel
- d3 The ECs time slot
- d4 The ECs NPC number
- d5 The ECs Unit number

086 RTs external number is inconsistent with DCLU

An RTs external number in the MP data base does not match with that of the DCLU in the MP data base.

- d0 Left byte of the RT external number in MP data base
- d1 Right byte of the RT external number in MP data base
- d2 Left byte of the DCLU external number in MP data base
- d3 Right byte of the DCLU external number in MP data base
- d4 Not used
- d5 The Unit of the RT

089 RTs Zoption is inconsistent with DCLU Zoption

An RTs Zoption in the MP data base does not match with that of the DCLU in the MP data base

- d0 The RT Zoption in MP data base
- d1 The DCLU Zoption in MP data base
- d2 Not used
- d3 Not used
- d4 The RT internal number
- d5 The Unit of the RT

090 RTs inhibit state is inconsistent with DCLU

An RTs inhibit state in the MP data base does not match with that of the DCLU in the MP data base

- d0 The RT inhibit state in MP data base
- d1 The DCLU inhibit state in MP data base
- d2 Index of the digroup
- d3 Not used
- d4 The RT internal number
- d5 The Unit of the RT

091 RTs loopback state is inconsistent with DCLU

An RTs loopback state in the MP data base does not match with that of the DCLU in the MP data base

- d0 The RT loopback state in MP data base
- d1 The DCLU loopback state in MP data base
- d2 Index of the digroup
- d3 Not used
- d4 The RT internal number
- d5 The Unit of the RT

093 RTs data link status is inconsistent with DCLU

An RTs data link status in the MP data base does not match with that of the DCLU in the MP data base

- d0 The RT data link in MP data base
- d1 The DCLU data link in MP data base
- d2 Not used
- d3 Not used
- d4 The RT internal number
- d5 The Unit of the RT

095 RTs SLC carrier mode is inconsistent with DCLU

An RTs SLC carrier mode in the MP data base does not match with that of the DCLU in the MP data base

- d0 The RT SLC carrier mode in MP data base
- d1 The DCLU SLC carrier mode in MP data base
- d2 Not used
- d3 Not used
- d4 The RT internal number
- d5 The Unit of the RT

102 MP two-way two-point connection types are inconsistent

The two-way two-point connection types in the MP data base do not match between two sides.

- d0 Channel number of the TO side
- d1 NPC number of the TO side
- d2 UNIT number of the TO side
- d3 Channel number of the FROM side
- d4 NPC number of the FROM side
- d5 UNIT number of the FROM side

103 MP two-way two-point connection data are inconsistent

The two-way two-point connection data in the MP data base do not match between two sides.

- d0 Channel number of the TO side
- d1 NPC number of the TO side
- d2 UNIT number of the TO side
- d3 Channel number of the FROM side
- d4 NPC number of the FROM side
- d5 UNIT number of the FROM side

104 UC two-way two-point connection data are inconsistent

The two-way two-point connection channel data in the UC data base do not match that from MP data base.

- d0 TCC audit result - equal 1 if inconsistency detected
- d1 Flag audit result - equal 1 if inconsistency detected
- d2 Connected NPC audit result - equal 1 if inconsistency detected
- d3 Channel number
- d4 NPC number
- d5 UNIT number

105 CCN two-way two-point connection map error detected

The two-way two-point connection TSI map in the CCN does not match between two sides.

- d0 Channel number of the TO side
- d1 NPC number of the TO side
- d2 UNIT number of the TO side
- d3 Channel number of the FROM side
- d4 NPC number of the FROM side
- d5 UNIT number of the FROM side

106 ECCN two-way two-point connection map error detected

The two-way two-point connection ETSI map in the ECCN does not match between two sides.

- d0 Channel number of the TO side
- d1 NPC number of the TO side
- d2 UNIT number of the TO side
- d3 Channel number of the FROM side
- d4 NPC number of the FROM side
- d5 UNIT number of the FROM side



112 MP one-way two-point connection types are inconsistent

The one-way two-point connection types in the MP data base do not match between two sides.

- d0 Channel number of the TO side
- d1 NPC number of the TO side
- d2 UNIT number of the TO side
- d3 Channel number of the FROM side
- d4 NPC number of the FROM side
- d5 UNIT number of the FROM side

113 MP one-way two-point connection data are inconsistent

The one-way two-point connection data in the MP data base does not match between two sides.

- d0 Channel number of the TO side
- d1 NPC number of the TO side
- d2 UNIT number of the TO side
- d3 Channel number of the FROM side
- d4 NPC number of the FROM side
- d5 UNIT number of the FROM side

114 UC one-way two-point connection data are inconsistent

The one-way two-point connection channel data in the UC data base do not match that MP data base.

- d0 TCC audit result - equal 1 if inconsistency detected
- d1 Flag audit result - equal 1 if inconsistency detected
- d2 Connected NPC audit result - equal 1 if inconsistency detected
- d3 Channel number
- d4 NPC number
- d5 UNIT number

115 CCN one-way two-point connection map error detected

The one-way two-point connection TSI map in the CCN does not match between two sides.

- d0 Channel number of the TO side
- d1 NPC number of the TO side
- d2 UNIT number of the TO side
- d3 Channel number of the FROM side
- d4 NPC number of the FROM side
- d5 UNIT number of the FROM side

116 CCN unmapped connection error detected

The TSI map shows that there is a connection map to an NPC and channel in CCN data base while the NPC and channel are marked as unmapped in MP data base.

d0 Channel number of the TO side  
d1 NPC number of the TO side  
d2 Unit number of the TO side  
d3 Not used  
d4 Not used  
d5 Not used

121 UC virtual conference leg channel alternate message store (AMS) value is inconsistent

The virtual conference leg channel AMS data in the UC data base does not match the TCC value in the MP data base.

d0 Not used  
d1 Not used  
d2 Not used  
d3 Channel number  
d4 NPC number  
d5 UNIT number

122 UC virtual conference leg channel connected NPC is inconsistent

The connected NPC of the virtual conference leg channel in the UC data base does not match the BBL NPC number from the MP data base.

d0 Not used  
d1 Not used  
d2 Not used  
d3 Channel number  
d4 NPC number  
d5 UNIT number

123 UC virtual conference leg channel flag is inconsistent

The virtual conference leg channel flag in the UC data base does not match the flag from the MP data base.

d0 Not used  
d1 Not used  
d2 Not used  
d3 Channel number  
d4 NPC number  
d5 UNIT number

125 CCN virtual conference leg channel connection map error detected

The two-point connection TSI map in the CCN does not match between the BBL channel and the leg channel.

- d0 Channel number of the BRD leg
- d1 NPC number of the BRD leg
- d2 UNIT number of the BRD leg
- d3 Channel number of the BBL leg
- d4 NPC number of the BBL leg
- d5 UNIT number of the BBL leg

126 ECCN virtual conference leg channel connection map error detected

The two-point connection ETSI map in the ECCN does not match between the BBL channel and the leg channel.

- d0 Channel number of the BRD leg
- d1 NPC number of the BRD leg
- d2 UNIT number of the BRD leg
- d3 Channel number of the BBL leg
- d4 NPC number of the BBL leg
- d5 UNIT number of the BBL leg

127 ECCN one-way two-point connection map error detected

The one-way two-point connection ETSI map in the ECCN does not match between two sides.

- d0 Channel number of the TO side
- d1 NPC number of the TO side
- d2 UNIT number of the TO side
- d3 Channel number of the FROM side
- d4 NPC number of the FROM side
- d5 UNIT number of the FROM side

128 ECCN unmapped connection error detected

The ETSI map shows that there is a connection map to an NPC and channel in ECCN data base while they are marked as unmapped in MP data base.

- d0 Channel number of the TO side
- d1 NPC number of the TO side
- d2 Unit number of the TO side
- d3 Not used
- d4 Not used
- d5 Not used

- 131 UC BCON leg channel alternate message store (AMS) value is inconsistent

The BCON leg channel AMS data in the UC data base does not match the TCC value from the MP data base.

d0 Not used  
d1 Not used  
d2 Not used  
d3 Channel number  
d4 NPC number  
d5 UNIT number

- 132 UC BCON leg channel connected NPC is inconsistent

The connected NPC of the BCON leg channel in the UC data base does not match the BBL NPC number from the MP data base.

d0 Not used  
d1 Not used  
d2 Not used  
d3 Channel number  
d4 NPC number  
d5 UNIT number

- 133 UC BCON leg channel flag is inconsistent

The BCON leg channel flag in the UC data base does not match the flag from the MP data base.

d0 Not used  
d1 Not used  
d2 Not used  
d3 Channel number  
d4 NPC number  
d5 UNIT number

- 135 CCN BCON leg channel connection map error detected

The two-point connection TSI map in the CCN does not match between the BBL channel and the leg channel.

d0 Channel number of the BRD leg  
d1 NPC number of the BRD leg  
d2 UNIT number of the BRD leg  
d3 Channel number of the BBL leg  
d4 NPC number of the BBL leg  
d5 UNIT number of the BBL leg

136 ECCN BCON leg channel connection map error detected

The two-point connection ETSI map in the ECCN does not match between the BBL channel and the leg channel.

- d0 Channel number of the BRD leg
- d1 NPC number of the BRD leg
- d2 UNIT number of the BRD leg
- d3 Channel number of the BBL leg
- d4 NPC number of the BBL leg
- d5 UNIT number of the BBL leg

150 UC DMB conference leg channel connected NPC is inconsistent

The connected NPC of the DMB conference leg channel in the UC data base does not match that from MP data base.

- d0 Channel flag in the UC data base
- d1 Connected NPC number
- d2 Connected Unit number
- d3 Channel number
- d4 NPC number
- d5 UNIT number

151 UC DMB conference leg channel alternate message store (AMS) value is inconsistent

The DMB conference leg channel AMS data in the UC data base does not match the TCC value from the MP data base.

- d0 Channel flag in the UC data base
- d1 Connected NPC number
- d2 Connected Unit number
- d3 Channel number
- d4 NPC number
- d5 UNIT number

152 UC DMB conference leg channel flag is inconsistent

The DMB conference leg channel flag in the UC data base does not match the flag from the MP data base.

- d0 Channel flag in the UC data base
- d1 Connected NPC number
- d2 Connected Unit number
- d3 Channel number
- d4 NPC number
- d5 UNIT number

154 CCN one-way DMB conference connection map error detected

The one-way DMB conference connection TSI map in the CCN does not match between two legs.

- d0 Channel number of the TO side
- d1 NPC number of the TO side
- d2 UNIT number of the TO side
- d3 Channel number of the FROM side
- d4 NPC number of the FROM side
- d5 UNIT number of the FROM side

155 CCN two-way DMB conference connection map error detected

The two-way DMB conference connection TSI map in the CCN does not match between two legs.

- d0 Channel number of the TO side
- d1 NPC number of the TO side
- d2 UNIT number of the TO side
- d3 Channel number of the FROM side
- d4 NPC number of the FROM side
- d5 UNIT number of the FROM side

156 ECCN one-way DMB conference connection map error detected

The one-way DMB conference connection ETSI map in the ECCN does not match between two legs.

- d0 Channel number of the TO side
- d1 NPC number of the TO side
- d2 UNIT number of the TO side
- d3 Channel number of the FROM side
- d4 NPC number of the FROM side
- d5 UNIT number of the FROM side

157 ECCN two-way DMB conference connection map error detected

The two-way DMB conference connection ETSI map in the ECCN does not match between two legs.

- d0 Channel number of the TO side
- d1 NPC number of the TO side
- d2 UNIT number of the TO side
- d3 Channel number of the FROM side
- d4 NPC number of the FROM side
- d5 UNIT number of the FROM side

160 UD DMB conference leg is inconsistent

The DMB conference number of the leg channel in the UD data base does not match the number from the MP data base.

- d0 Connected NPC number of the leg
- d1 Connected UC Unit number of the leg
- d2 Conference number of the leg stored in the UD data base
- d3 Channel number of the leg
- d4 DMB NPC number of the leg
- d5 UNIT number

161 UD DMB conference leg channel connected NPC is inconsistent

The connected NPC of the DMB conference leg channel in the UD data base does not match the NPC number from the MP data base.

- d0 Connected NPC number of the leg
- d1 Connected UC Unit number of the leg
- d2 Conference number of the leg
- d3 Channel number of the leg
- d4 DMB NPC number of the leg
- d5 UNIT number

162 UD DMB conference leg connected conference is inconsistent

The connected conference number of the DMB conference leg channel in the UD data base does not match the number from the MP data base.

- d0 Connected NPC number of the leg from UD data base
- d1 Connected UC Unit number of the leg
- d2 Conference number of the leg
- d3 Channel number of the leg
- d4 DMB NPC number of the leg
- d5 UNIT number

163 UD DMB conference leg type is inconsistent

The type of the DMB conference leg channel in the UD data base does not match the type from the MP data base.

- d0 Connected NPC number of the leg
- d1 Connected UC Unit number of the leg
- d2 Conference number of the leg
- d3 Channel number of the leg
- d4 DMB NPC number of the leg
- d5 UNIT number

164 UD DMB channel tlpin value is inconsistent

The value of transmit level into bridge of the DMB conference leg channel from UD data base does not match that from the MP data base.

- d0 Connected NPC number of the leg
- d1 Connected UC Unit number of the leg
- d2 Conference number of the leg
- d3 Channel number of the leg
- d4 DMB NPC number of the leg
- d5 UNIT number

165 UD DMB channel tlpout value is inconsistent

The value of transmit level out of bridge of the DMB conference leg channel from UD data base does not match that from the MP data base.

- d0 Connected NPC number of the leg
- d1 Connected UC Unit number of the leg
- d2 Conference number of the leg
- d3 Channel number of the leg
- d4 DMB NPC number of the leg
- d5 UNIT number

166 UD DMB channel noise guard value is inconsistent

The value of noise guard of the DMB conference leg channel from UD data base does not match that from the MP data base.

- d0 Connected NPC number of the leg
- d1 Connected UC Unit number of the leg
- d2 Conference number of the leg
- d3 Channel number of the leg
- d4 DMB NPC number of the leg
- d5 UNIT number

167 UD DMB channel echo suppression value is inconsistent

The value of echo suppression of the DMB conference leg channel from UD data base does not match that from the MP data base.

- d0 Connected NPC number of the leg
- d1 Connected UC Unit number of the leg
- d2 Conference number of the leg
- d3 Channel number of the leg
- d4 DMB NPC number of the leg
- d5 UNIT number



168 UD DMB channel NTR state is inconsistent

The current NTR state of the DMB conference leg from UD data base does not match that from the MP data base.

- d0 Connected NPC number of the leg
- d1 Connected UC Unit number of the leg
- d2 Conference number of the leg
- d3 Channel number of the leg
- d4 DMB NPC number of the leg
- d5 UNIT number

171 DSPU CPR channel modify activated/monitor enabled information is inconsistent

The CPR channel modify activated/monitor enabled information stored in UD data base does not match that stored in the MP data base.

- d0 Not used
- d1 Not used
- d2 Not used
- d3 Channel number
- d4 CPR NPC number
- d5 UNIT number

172 DSPU CPR channel modify activated/monitor enabled information is inconsistent

The CPR channel modify activated/monitor enabled information stored in UD data base does not match that stored in the CPR hardware.

- d0 Not used
- d1 Not used
- d2 Not used
- d3 Channel number
- d4 CPR NPC number
- d5 UNIT number

173 DSPU CPR liaison C-Bit modify pattern information is inconsistent

The CPR liaison C-Bit modify pattern information stored in UD data base does not match that stored in the CPR hardware.

- d0 Not used
- d1 Not used
- d2 Not used
- d3 Channel number
- d4 CPR NPC number
- d5 UNIT number

174 DSPU CPR pack type is inconsistent

The CPR pack type stored in UD data base does not match with the CPR pack.

|    |                |
|----|----------------|
| d0 | Type on UDDB   |
| d1 | CPR pack type  |
| d2 | Not used       |
| d3 | Channel number |
| d4 | CPR NPC number |
| d5 | UNIT number    |

205 FTU FTMI hardware not in service

The FTU FTMI hardware status is not in service but the equipage flag in the UC data base is in service.

|    |             |
|----|-------------|
| d0 | Not used    |
| d1 | Not used    |
| d2 | Not used    |
| d3 | Not used    |
| d4 | FTMI number |
| d5 | UNIT number |

207 FTU FC hardware not in service

The FTU FC hardware status is not in service but the equipage flag in the UC data base is in service.

|    |             |
|----|-------------|
| d0 | Not used    |
| d1 | Not used    |
| d2 | Not used    |
| d3 | FC side     |
| d4 | FTMI number |
| d5 | UNIT number |

208 NPC hardware not in service

The Unit NPC hardware status is not in service but the equipage flag in the UC data base is in service.

|    |             |
|----|-------------|
| d0 | Not used    |
| d1 | Not used    |
| d2 | Not used    |
| d3 | Not used    |
| d4 | NPC number  |
| d5 | UNIT number |

209 UC NPC type not match with hardware

The Unit NPC type in the UC data base does not match with that indicated in the hardware.

- d0 NPC type in hardware
- d1 NPC type in data base
- d2 Not used
- d3 Not used
- d4 NPC number
- d5 UNIT number

210 FTU FC hardware mode is inconsistent

The FTU FC hardware mode status does not match the FC mode stored in the UC data base.

- d0 Not used
- d1 FC hardware mode
- d2 FC mode in the UC data base
- d3 FC side
- d4 FTMI number
- d5 UNIT number

211 FTU or DS3U NPC channel alternate message store (AMS) value is inconsistent

The FTU or DS3U NPC channel AMS value stored in the unit data base does not match the AMS value from the DDC hardware.

- d0 Not used
- d1 Not used
- d2 Side
- d3 Channel number
- d4 NPC number
- d5 UNIT number

215 DPC NPC TS0M value is inconsistent

The TS0M value stored in UC data base does not match that stored in the DPC hardware.

- d0 NPC TS0M bits from DPC hardware
- d1 NPC TS0M bits from UC data base
- d2 Not used
- d3 Not used
- d4 NPC number
- d5 UNIT number

216 DPC NPC loopback value is inconsistent

The LPBK value stored in UC data base does not match that stored in the DPC hardware.

- d0 NPC LPBK bits from DPC hardware
- d1 NPC LPBK bits from UC data base
- d2 Not used
- d3 Not used
- d4 NPC number
- d5 UNIT number

217 FTU and DS3U NPC pgfbits in the channel are inconsistent

The pgfbits in the data base do not match the pgfbits stored in the transceiver loopback parity channel hardware. The F and G bits determine the signaling type (16-state, 4-state or transparent). This comparison is only done on domestic NPCs on the RECEIVE side.

- d0 Data base F and G bits
- d1 Transceiver Hardware F and G bits
- d2 CHANNEL side : (Receive side)
- d3 CHANNEL number
- d4 NPC number
- d5 UNIT number

218 FTU NPC Channel AIS flag is inconsistent.

The AIS flag set in the DDC Digital Signal Interface (DSI) hardware register does not match with the associated flag saved in the UC data base.

- d0 AIS flag in the DSI register
- d1 AIS flag in the UC data base
- d2 Not used
- d3 Channel side
- d4 NPC number
- d5 Unit number

220 FTU and DS3U NPC COFAMAJ threshold value is inconsistent

The Change Of Frame Alignment Major value of the FTU NPC threshold value stored in the FTU Unit data base does not match that stored in the DDC hardware.

- d0 Second byte of the cofamaj value from DDC hardware
- d1 First byte of the cofamaj value from DDC hardware
- d2 Second byte of the cofamaj value from UC data base
- d3 First byte of the cofamaj value from UC data base
- d4 NPC number
- d5 UNIT number

221 FTU and DS3U NPC COFAMIN threshold value is inconsistent

The Change Of Frame Alignment Minor value of the FTU NPC NPC threshold value stored in the FTU data base does not match that stored in the DDC hardware.

- d0 Second byte of the cofamin value from DDC hardware
- d1 First byte of the cofamin value from DDC hardware
- d2 Second byte of the cofamin value from UC data base
- d3 First byte of the cofamin value from UC data base
- d4 NPC number
- d5 UNIT number

222 FTU NPC SLIPMAJ threshold value is inconsistent

The Slip Major value stored in the UC data base does not match that stored in the DDC hardware

- d0 Second byte of the slipmaj value from DDC hardware
- d1 First byte of the slipmaj value from DDC hardware
- d2 Second byte of the slipmaj value from UC data base
- d3 First byte of the slipmaj value from UC data base
- d4 NPC number
- d5 UNIT number

223 FTU and DS3U NPC SLIPMIN threshold value is inconsistent

The Slip Minor threshold value stored in the UC data base does not match that stored in the DDC hardware

- d0 Second byte of the slipmin value from DDC hardware
- d1 First byte of the slipmin value from DDC hardware
- d2 Second byte of the slipmin value from UC data base
- d3 First byte of the slipmin value from UC data base
- d4 NPC number
- d5 UNIT number

224 FTU and DS3U NPC SES threshold value is inconsistent

The Severe Errored Seconds value stored in the UC data base does not match that stored in the DDC hardware.

- d0 Second byte of the ses value from DDC hardware
- d1 First byte of the ses value from DDC hardware
- d2 Second byte of the ses value from UC data base
- d3 First byte of the ses value from UC data base
- d4 NPC number
- d5 UNIT number

225 FTU and DS3U NPC ES threshold value is inconsistent

The Errored Seconds value stored in the UC data base does not match that stored in the DDC hardware.

- d0 Second byte of the es value from DDC hardware
- d1 First byte of the es value from DDC hardware
- d2 Second byte of the es value from UC data base
- d3 First byte of the es value from UC data base
- d4 NPC number
- d5 UNIT number

226 FTU and DS3U NPC BERMAJ threshold value is inconsistent

The Bit Error Rate Major value stored in the UC data base does not match that stored in the DDC hardware.

- d0 Second byte of the bermaj value from DDC hardware
- d1 First byte of the bermaj value from DDC hardware
- d2 Second byte of the bermaj value from UC data base
- d3 First byte of the bermaj value from UC data base
- d4 NPC number
- d5 UNIT number

227 FTU and DS3U NPC BERMIN threshold value is inconsistent

The Bit Error Rate Minor value stored in the UC data base does not match that stored in the DDC hardware.

- d0 Second byte of the bermin value from DDC hardware
- d1 First byte of the bermin value from DDC hardware
- d2 Second byte of the bermin value from UC data base
- d3 First byte of the bermin value from UC data base
- d4 NPC number
- d5 UNIT number

228 NPC (DIU/DPC) Error Seconds 15 min. threshold value is inconsistent

The Error Seconds 15 min. (ERS15) threshold value stored in UC data base does not match that stored in the NPC hardware.

- d0 Second byte of the ERS15 value of the NPC from hardware
- d1 First byte of the ERS15 value of the NPC from hardware
- d2 Second byte of the ERS15 value of the NPC from UC data base
- d3 First byte of the ERS15 value of the NPC from UC data base
- d4 NPC number
- d5 Unit number

229 DIU NPC Bursty Error Seconds 15 Min threshold value is inconsistent

The Bursty Error Seconds 15 min. threshold value of a DIU NPC stored in the UC data base does not match with that in the hardware.

- d0 Second byte of the BERS15 value of the NPC from hardware
- d1 First byte of the BERS15 value of the NPC from hardware
- d2 Second byte of the BERS15 value of the NPC from UC data base
- d3 First byte of the BERS15 value of the NPC from UC data base
- d4 DIU NPC number
- d5 Unit number

230 NPC (DIU/DPC) Severely Error Seconds 15 min. threshold value is inconsistent

The Severely Error Seconds 15 min. (SERS15) threshold value stored in the UC data base does not match with that in the hardware.

- d0 Second byte of the SERS15 value of the NPC from hardware
- d1 First byte of the SERS15 value of the NPC from hardware
- d2 Second byte of the SERS15 value of the NPC from UC data base
- d3 First byte of the SERS15 value of the NPC from UC data base
- d4 NPC number
- d5 Unit number

231 NPC (DIU/DPC) Unavailable Seconds 15 min. threshold value is inconsistent

The Unavailable Seconds 15 min. (US15) threshold value of an NPC stored in the UC data base does not match with that in the hardware.

- d0 Second byte of the US15 value of the NPC from hardware
- d1 First byte of the US15 value of the NPC from hardware
- d2 Second byte of the US15 value of the NPC from UC data base
- d3 First byte of the US15 value of the NPC from UC data base
- d4 NPC number
- d5 Unit number

232 NPC (DIU/DPC) Slips 15 min. threshold value is inconsistent

The Slips Error Seconds 15 min. (SLP15) threshold value stored in the UC data base does not match with that in the hardware.

- d0 Second byte of the SLP15 value of the NPC from hardware
- d1 First byte of the SLP15 value of the NPC from hardware
- d2 Second byte of the SLP15 value of the NPC from UC data base
- d3 First byte of the SLP15 value of the NPC from UC data base
- d4 NPC number
- d5 Unit number

233 NPC (DIU/DPC) Error Seconds 24 hr. threshold value is inconsistent

The Error Seconds 24 hr. (ESR24) threshold value stored in UC data base does not match that stored in the hardware.

- d0 Second byte of the ERS24 value of the NPC from hardware
- d1 First byte of the ERS24 value of the NPC from hardware
- d2 Second byte of the ERS24 value of the NPC from UC data base
- d3 First byte of the ERS24 value of the NPC from UC data base
- d4 NPC number
- d5 Unit number

234 DIU NPC Bursty Error Seconds 24 Min threshold value is inconsistent

The Bursty Error Seconds 24 min. threshold value of a DIU NPC stored in the UC data base does not match with that in the hardware.

- d0 Second byte of the BERS24 value of the NPC from hardware
- d1 First byte of the BERS24 value of the NPC from hardware
- d2 Second byte of the BERS24 value of the NPC from UC data base
- d3 First byte of the BERS24 value of the NPC from UC data base
- d4 DIU NPC number
- d5 Unit number

235 NPC (DIU/DPC) Severely Error Seconds 24 hr. threshold value is inconsistent

The Severely Error Seconds 24 hr. (SERS24) threshold value stored in the UC data base does not match with that in the hardware.

- d0 Second byte of the SERS24 value of the NPC from hardware
- d1 First byte of the SERS24 value of the NPC from hardware
- d2 Second byte of the SERS24 value of the NPC from UC data base
- d3 First byte of the SERS24 value of the NPC from UC data base
- d4 NPC number
- d5 Unit number

236 NPC (DIU/DPC) Unavailable Seconds 24 hr. threshold value is inconsistent

The Unavailable Seconds 24 hr. (US24) threshold value stored in the UC data base does not match with that in the hardware.

- d0 Second byte of the US24 value of the NPC from hardware
- d1 First byte of the US24 value of the NPC from hardware
- d2 Second byte of the US24 value of the NPC from UC data base
- d3 First byte of the US24 value of the NPC from UC data base
- d4 NPC number
- d5 Unit number



- 237 NPC (DIU/DPC) Slips Error Seconds 24 hr. threshold value is inconsistent

The Slips Error Seconds 24 hr. (SLP24) threshold value stored in the UC data base does not match with that in the hardware.

- d0 Second byte of the SLP24 value of the NPC from hardware
- d1 First byte of the SLP24 value of the NPC from hardware
- d2 Second byte of the SLP24 value of the NPC from UC data base
- d3 First byte of the SLP24 value of the NPC from UC data base
- d4 NPC number
- d5 Unit number

- 238 DPC NPC Degraded Minute 1 hr (DM) threshold value is inconsistent

The Degraded Minute 1 hr. threshold value stored in UC data base does not match that stored in the DPC hardware.

- d0 Second byte of the DM value from DPC hardware
- d1 First byte of the DM value from DPC hardware
- d2 Second byte of the DM value from UC data base
- d3 First byte of the DM value from UC data base
- d4 NPC number
- d5 UNIT number

- 239 DPC NPC Degraded Minute 24 hr (DM24) threshold value is inconsistent

The Degraded Minute 24 hr. threshold value stored in UC data base does not match that stored in the DPC hardware.

- d0 Second byte of the DM24 value from DPC hardware
- d1 First byte of the DM24 value from DPC hardware
- d2 Second byte of the DM24 value from UC data base
- d3 First byte of the DM24 value from UC data base
- d4 NPC number
- d5 UNIT number

- 240 SLC carrier NPC SANE threshold value is inconsistent

The SLC carrier NPC SANE threshold value stored in the UC data base does not match with that stored in the DDC hardware

- d0 Second byte of the sane threshold value from DDC hardware
- d1 First byte of the sane threshold value from DDC hardware
- d2 Second byte of the sane threshold value from UC data base
- d3 First byte of the sane threshold value from UC data base
- d4 NPC number
- d5 UNIT number

241 SLC carrier NPC SAFE threshold value is inconsistent

The SLC carrier NPC SAFE threshold value stored in the UC data base does not match with that stored in the DDC hardware

- d0 Second byte of the SAFE threshold value from DDC hardware
- d1 First byte of the SAFE threshold value from DDC hardware
- d2 Second byte of the SAFE threshold value from UC data base
- d3 First byte of the SAFE threshold value from UC data base
- d4 NPC number
- d5 UNIT number

242 SLC carrier NPC SELF alarm threshold value is inconsistent

The SLC carrier NPC SELF alarm threshold value stored in the UC data base does not match with that stored in the DDC hardware

- d0 Second byte of the SELF alarm threshold value from DDC hardware
- d1 First byte of the SELF alarm threshold value from DDC hardware
- d2 Second byte of the SELF alarm threshold value from UC data base
- d3 First byte of the SELF alarm threshold value from UC data base
- d4 NPC number
- d5 UNIT number

250 HUB-ID value in hardware is inconsistent

The HUB-ID is inconsistent between the MP data base and the hardware.

- d0 HUB-ID value from MP data base
- d1 HUB-ID value from the hardware
- d2 Not used
- d3 Not used
- d4 NPC number
- d5 Unit number

251 The time slot hardware image or control memory is inconsistent

The EC Hardware Image/Control Memory is inconsistent between MP data base and the hardware.

- d0 The EC image value from MP data base
- d1 The EC image value from the hardware
- d2 SRM hardware data
- d3 The time slot number
- d4 The NPC number of the time slot
- d5 The Unit number of the time slot

|     |                                       |
|-----|---------------------------------------|
| 253 | DS3 FLI LOG hardware inconsistent     |
| d0  | UA hardware                           |
| d1  | UA lbo                                |
| d2  | Not used                              |
| d3  | Not used                              |
| d4  | MXR Number                            |
| d5  | Unit Number                           |
| 254 | DS3 MXR hardware flag inconsistent    |
| d0  | UA hardware flag                      |
| d1  | UA data base flag                     |
| d2  | Not used                              |
| d3  | Not used                              |
| d4  | MXR Number                            |
| d5  | Unit Number                           |
| 255 | DS3 MXR hardware type inconsistent    |
| d0  | UA hardware type                      |
| d1  | UA data base type                     |
| d2  | Not used                              |
| d3  | Not used                              |
| d4  | MXR Number                            |
| d5  | Unit Number                           |
| 256 | DS3 MXR hardware xoption inconsistent |
| d0  | UA hardware xoption                   |
| d1  | UA data base xoption                  |
| d2  | Not used                              |
| d3  | Not used                              |
| d4  | MXR Number                            |
| d5  | Unit Number                           |
| 257 | DS3 MXR hardware yoption inconsistent |
| d0  | UA hardware yoption                   |
| d1  | UA data base yoption                  |
| d2  | Not used                              |
| d3  | Not used                              |
| d4  | MXR Number                            |
| d5  | Unit Number                           |

- 258 DS3 MXR hardware zoption inconsistent
  - d0 UA hardware zoption
  - d1 UA data base zoption
  - d2 Not used
  - d3 Not used
  - d4 MXR Number
  - d5 Unit Number
  
- 259 DS3 MXR hardware BER threshold inconsistent
  - d0 UA hardware BER threshold
  - d1 UA data base BER threshold
  - d2 Not used
  - d3 Not used
  - d4 MXR Number
  - d5 Unit Number
  
- 25A DS3 MXR hardware BER type inconsistent
  - d0 UA hardware BER type
  - d1 UA data base BER type
  - d2 Not used
  - d3 Not used
  - d4 MXR Number
  - d5 Unit Number
  
- 25B DS3 MIU hardware flag inconsistent
  - d0 UA hardware flag
  - d1 UA data base flag
  - d2 Not used
  - d3 Not used
  - d4 MIU Number
  - d5 Unit Number
  
- 25C DS3 MIU hardware type inconsistent
  - d0 UA hardware type
  - d1 UA data base type
  - d2 Not used
  - d3 Not used
  - d4 MIU Number
  - d5 Unit Number

25D DS3 MIU hardware xoption inconsistent

d0 UA hardware xoption  
d1 UA data base xoption  
d2 Not used  
d3 Not used  
d4 MIU Number  
d5 Unit Number

25E DS3 MIU hardware yoption inconsistent

d0 UA hardware yoption  
d1 UA data base yoption  
d2 Not used  
d3 Not used  
d4 MIU Number  
d5 Unit Number

25F DS3 MIU hardware zoption inconsistent

d0 UA hardware zoption  
d1 UA data base zoption  
d2 Not used  
d3 Not used  
d4 MIU Number  
d5 Unit Number

260 MMFG data base inhibit flag inconsistent

d0 UA hardware flag  
d1 UA data base flag  
d2 Not used  
d3 Not used  
d4 Not used  
d5 Unit Number

261 MMFG data base protected status inconsistent

d0 UA hardware status  
d1 UA data base status  
d2 Not used  
d3 Not used  
d4 Not used  
d5 Unit Number

- 262 MMFG data base protected index inconsistent
- d0 UA hardware index
  - d1 UA data base index
  - d2 Not used
  - d3 Not used
  - d4 Not used
  - d5 Unit Number
- 263 MMFG data base protected mode inconsistent
- d0 UA hardware mode
  - d1 UA data base mode
  - d2 Not used
  - d3 Not used
  - d4 Not used
  - d5 Unit Number
- 264 MMFG data base service status of MXR P inconsistent
- d0 UA hardware status
  - d1 UA data base status
  - d2 Not used
  - d3 Not used
  - d4 Not used
  - d5 Unit Number
- 265 MMFG data base service status of MIU P inconsistent
- d0 UA hardware status
  - d1 UA data base status
  - d2 Not used
  - d3 Not used
  - d4 Not used
  - d5 Unit Number
- 266 Invalid value of Receive Framer Mode A register
- d0 Not used
  - d1 Not used
  - d2 Expected value
  - d3 Actual value read back from the hardware
  - d4 NPC number
  - d5 Unit Number

|     |                                                       |
|-----|-------------------------------------------------------|
| 267 | Invalid value of Receive Framer Mode B register       |
| d0  | Not used                                              |
| d1  | Not used                                              |
| d2  | Expected value                                        |
| d3  | Actual value read back from the hardware              |
| d4  | NPC number                                            |
| d5  | Unit Number                                           |
| 268 | Invalid value of Receive Framer Exercise register     |
| d0  | Not used                                              |
| d1  | Not used                                              |
| d2  | Expected value                                        |
| d3  | Actual value read back from the hardware              |
| d4  | NPC number                                            |
| d5  | Unit Number                                           |
| 269 | Invalid value of Receive Synchronizer Mode A register |
| d0  | Not used                                              |
| d1  | Not used                                              |
| d2  | Expected value                                        |
| d3  | Actual value read back from the hardware              |
| d4  | NPC number                                            |
| d5  | Unit Number                                           |
| 26A | Invalid value of Receive Synchronizer Mode B register |
| d0  | Not used                                              |
| d1  | Not used                                              |
| d2  | Expected value                                        |
| d3  | Actual value read back from the hardware              |
| d4  | NPC number                                            |
| d5  | Unit Number                                           |
| 26B | Invalid value of Receive Exercise Mode register       |
| d0  | Not used                                              |
| d1  | Not used                                              |
| d2  | Expected value                                        |
| d3  | Actual value read back from the hardware              |
| d4  | NPC number                                            |
| d5  | Unit Number                                           |

26C Invalid value of Transmit Exercise Mode register

d0 Not used  
d1 Not used  
d2 Expected value  
d3 Actual value read back from the hardware  
d4 NPC number  
d5 Unit Number

26D Invalid value of Transmit Framing Mode register

d0 Not used  
d1 Not used  
d2 Expected value  
d3 Actual value read back from the hardware  
d4 NPC number  
d5 Unit Number

26E Invalid value of Transmit Signaling Mode register

d0 Not used  
d1 Not used  
d2 Expected value  
d3 Actual value read back from the hardware  
d4 NPC number  
d5 Unit Number

26F Invalid value of Transmit System Mode register

d0 Not used  
d1 Not used  
d2 Expected value  
d3 Actual value read back from the hardware  
d4 NPC number  
d5 Unit Number



- 270 NPC Daily Near-end Path Coding Violations threshold values are inconsistent

The Daily Near-end Path Coding Violations of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

- d0 Long ANSI threshold value in the hardware
- d1 Long ANSI threshold value in the hardware
- d2 Long ANSI threshold value in the hardware
- d3 Long ANSI threshold value in the hardware
- d4 Long ANSI threshold value in the data base
- d5 Long ANSI threshold value in the data base
- d6 Long ANSI threshold value in the data base
- d7 Long ANSI threshold value in the data base
- d8 NPC number
- d9 UNIT number

- 271 NPC Daily Near-end Path Errorred Seconds threshold values are inconsistent

The Daily Near-end Path Errorred Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

- d0 Long ANSI threshold value in the hardware
- d1 Long ANSI threshold value in the hardware
- d2 Long ANSI threshold value in the hardware
- d3 Long ANSI threshold value in the hardware
- d4 Long ANSI threshold value in the data base
- d5 Long ANSI threshold value in the data base
- d6 Long ANSI threshold value in the data base
- d7 Long ANSI threshold value in the data base
- d8 NPC number
- d9 UNIT number

272     NPC Daily Near-end Path Severely Errored Seconds threshold  
         values are inconsistent

The Daily Near-end Path Severely Errored Seconds of the ANSI NPC  
threshold value stored in the unit data base does not match that  
stored in the hardware

d0     Long ANSI threshold value in the hardware  
d1     Long ANSI threshold value in the hardware  
d2     Long ANSI threshold value in the hardware  
d3     Long ANSI threshold value in the hardware  
d4     Long ANSI threshold value in the data base  
d5     Long ANSI threshold value in the data base  
d6     Long ANSI threshold value in the data base  
d7     Long ANSI threshold value in the data base  
d8     NPC number  
d9     UNIT number

273     NPC Daily Near-end Severely Errored Framing Seconds threshold  
         values are inconsistent

The Daily Near-end Severely Errored Framing Seconds of the ANSI NPC  
threshold value stored in the unit data base does not match that  
stored in the hardware

d0     Long ANSI threshold value in the hardware  
d1     Long ANSI threshold value in the hardware  
d2     Long ANSI threshold value in the hardware  
d3     Long ANSI threshold value in the hardware  
d4     Long ANSI threshold value in the data base  
d5     Long ANSI threshold value in the data base  
d6     Long ANSI threshold value in the data base  
d7     Long ANSI threshold value in the data base  
d8     NPC number  
d9     UNIT number

- 274      NPC Daily Near-end Controlled Slip Seconds threshold values are inconsistent

The Daily Near-end Controlled Slip Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

- d0      Long ANSI threshold value in the hardware
- d1      Long ANSI threshold value in the hardware
- d2      Long ANSI threshold value in the hardware
- d3      Long ANSI threshold value in the hardware
- d4      Long ANSI threshold value in the data base
- d5      Long ANSI threshold value in the data base
- d6      Long ANSI threshold value in the data base
- d7      Long ANSI threshold value in the data base
- d8      NPC number
- d9      UNIT number

- 275      NPC Daily Near-end Unavailable Seconds threshold values are inconsistent

The Daily Near-end Unavailable Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

- d0      Long ANSI threshold value in the hardware
- d1      Long ANSI threshold value in the hardware
- d2      Long ANSI threshold value in the hardware
- d3      Long ANSI threshold value in the hardware
- d4      Long ANSI threshold value in the data base
- d5      Long ANSI threshold value in the data base
- d6      Long ANSI threshold value in the data base
- d7      Long ANSI threshold value in the data base
- d8      NPC number
- d9      UNIT number

- 276      NPC Daily Near-end Line Coding Violations threshold values are inconsistent

The Daily Near-end Line Coding Violations of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

- d0      Long ANSI threshold value in the hardware
- d1      Long ANSI threshold value in the hardware
- d2      Long ANSI threshold value in the hardware
- d3      Long ANSI threshold value in the hardware
- d4      Long ANSI threshold value in the data base
- d5      Long ANSI threshold value in the data base
- d6      Long ANSI threshold value in the data base
- d7      Long ANSI threshold value in the data base
- d8      NPC number
- d9      UNIT number

- 277      NPC Daily Near-end Line Errored Seconds threshold values are inconsistent

The Daily Near-end Line Errored Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

- d0      Long ANSI threshold value in the hardware
- d1      Long ANSI threshold value in the hardware
- d2      Long ANSI threshold value in the hardware
- d3      Long ANSI threshold value in the hardware
- d4      Long ANSI threshold value in the data base
- d5      Long ANSI threshold value in the data base
- d6      Long ANSI threshold value in the data base
- d7      Long ANSI threshold value in the data base
- d8      NPC number
- d9      UNIT number

- 278      NPC Daily Near-end Line Severely Errored Seconds threshold  
         are inconsistent

The Daily Near-end Line Severely Errored Seconds of the ANSI NPC  
threshold value stored in the unit data base does not match that  
stored in the hardware

- d0      Long ANSI threshold value in the hardware
- d1      Long ANSI threshold value in the hardware
- d2      Long ANSI threshold value in the hardware
- d3      Long ANSI threshold value in the hardware
- d4      Long ANSI threshold value in the data base
- d5      Long ANSI threshold value in the data base
- d6      Long ANSI threshold value in the data base
- d7      Long ANSI threshold value in the data base
- d8      NPC number
- d9      UNIT number

- 279      NPC Daily Far-end Path Coding Violations threshold values are  
         inconsistent

The Daily Far-end Path Coding Violations of the ANSI NPC threshold  
value stored in the unit data base does not match that stored in the  
hardware

- d0      Long ANSI threshold value in the hardware
- d1      Long ANSI threshold value in the hardware
- d2      Long ANSI threshold value in the hardware
- d3      Long ANSI threshold value in the hardware
- d4      Long ANSI threshold value in the data base
- d5      Long ANSI threshold value in the data base
- d6      Long ANSI threshold value in the data base
- d7      Long ANSI threshold value in the data base
- d8      NPC number
- d9      UNIT number

27A NPC Daily Far-end Path Errored Seconds threshold values are inconsistent

The Daily Far-end Path Errored Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

|    |                                            |
|----|--------------------------------------------|
| d0 | Long ANSI threshold value in the hardware  |
| d1 | Long ANSI threshold value in the hardware  |
| d2 | Long ANSI threshold value in the hardware  |
| d3 | Long ANSI threshold value in the hardware  |
| d4 | Long ANSI threshold value in the data base |
| d5 | Long ANSI threshold value in the data base |
| d6 | Long ANSI threshold value in the data base |
| d7 | Long ANSI threshold value in the data base |
| d8 | NPC number                                 |
| d9 | UNIT number                                |

27B NPC Daily Far-end Path Severely Errored Seconds threshold values are inconsistent

The Daily Far-end Path Severely Errored Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

|    |                                            |
|----|--------------------------------------------|
| d0 | Long ANSI threshold value in the hardware  |
| d1 | Long ANSI threshold value in the hardware  |
| d2 | Long ANSI threshold value in the hardware  |
| d3 | Long ANSI threshold value in the hardware  |
| d4 | Long ANSI threshold value in the data base |
| d5 | Long ANSI threshold value in the data base |
| d6 | Long ANSI threshold value in the data base |
| d7 | Long ANSI threshold value in the data base |
| d8 | NPC number                                 |
| d9 | UNIT number                                |

27C    NPC Daily Far-end Severely Errored Framing Seconds threshold values are inconsistent

The Daily Far-end Severely Errored Framing Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

- d0    Long ANSI threshold value in the hardware
- d1    Long ANSI threshold value in the hardware
- d2    Long ANSI threshold value in the hardware
- d3    Long ANSI threshold value in the hardware
- d4    Long ANSI threshold value in the data base
- d5    Long ANSI threshold value in the data base
- d6    Long ANSI threshold value in the data base
- d7    Long ANSI threshold value in the data base
- d8    NPC number
- d9    UNIT number

27D    NPC Daily Far-end Controlled Slip Seconds threshold values are inconsistent

The Daily Far-end Controlled Slip Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

- d0    Long ANSI threshold value in the hardware
- d1    Long ANSI threshold value in the hardware
- d2    Long ANSI threshold value in the hardware
- d3    Long ANSI threshold value in the hardware
- d4    Long ANSI threshold value in the data base
- d5    Long ANSI threshold value in the data base
- d6    Long ANSI threshold value in the data base
- d7    Long ANSI threshold value in the data base
- d8    NPC number
- d9    UNIT number

27E    NPC Daily Far-end Unavailable Seconds threshold values are  
inconsistent

The Daily Far-end Unavailable Seconds of the ANSI NPC threshold value  
stored in the unit data base does not match that stored in the  
hardware

|    |                                            |
|----|--------------------------------------------|
| d0 | Long ANSI threshold value in the hardware  |
| d1 | Long ANSI threshold value in the hardware  |
| d2 | Long ANSI threshold value in the hardware  |
| d3 | Long ANSI threshold value in the hardware  |
| d4 | Long ANSI threshold value in the data base |
| d5 | Long ANSI threshold value in the data base |
| d6 | Long ANSI threshold value in the data base |
| d7 | Long ANSI threshold value in the data base |
| d8 | NPC number                                 |
| d9 | UNIT number                                |

27F    NPC Daily Far-end Line Errored Seconds threshold values are  
inconsistent

The Daily Far-end Line Errored Seconds of the ANSI NPC threshold value  
stored in the unit data base does not match that stored in the  
hardware

|    |                                            |
|----|--------------------------------------------|
| d0 | Long ANSI threshold value in the hardware  |
| d1 | Long ANSI threshold value in the hardware  |
| d2 | Long ANSI threshold value in the hardware  |
| d3 | Long ANSI threshold value in the hardware  |
| d4 | Long ANSI threshold value in the data base |
| d5 | Long ANSI threshold value in the data base |
| d6 | Long ANSI threshold value in the data base |
| d7 | Long ANSI threshold value in the data base |
| d8 | NPC number                                 |
| d9 | UNIT number                                |



280      NPC 15-Minute Near-end Path Coding Violations threshold values  
         are inconsistent

The 15-Minute Near-end Path Coding Violations of the ANSI NPC  
threshold value stored in the unit data base does not match that  
stored in the hardware

d0      Long ANSI threshold value in the hardware  
d1      Long ANSI threshold value in the hardware  
d2      Long ANSI threshold value in the hardware  
d3      Long ANSI threshold value in the hardware  
d4      Long ANSI threshold value in the data base  
d5      Long ANSI threshold value in the data base  
d6      Long ANSI threshold value in the data base  
d7      Long ANSI threshold value in the data base  
d8      NPC number  
d9      UNIT number

281      NPC 15-Minute Near-end Path Errored Seconds threshold values  
         are inconsistent

The 15-Minute Near-end Path Errored Seconds of the ANSI NPC threshold  
value stored in the unit data base does not match that stored in the  
hardware

d0      Long ANSI threshold value in the hardware  
d1      Long ANSI threshold value in the hardware  
d2      Long ANSI threshold value in the hardware  
d3      Long ANSI threshold value in the hardware  
d4      Long ANSI threshold value in the data base  
d5      Long ANSI threshold value in the data base  
d6      Long ANSI threshold value in the data base  
d7      Long ANSI threshold value in the data base  
d8      NPC number  
d9      UNIT number

282     NPC 15-Minute Near-end Path Severely Errored Seconds threshold values are inconsistent

The 15-Minute Near-end Path Severely Errored Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0     Long ANSI threshold value in the hardware  
d1     Long ANSI threshold value in the hardware  
d2     Long ANSI threshold value in the hardware  
d3     Long ANSI threshold value in the hardware  
d4     Long ANSI threshold value in the data base  
d5     Long ANSI threshold value in the data base  
d6     Long ANSI threshold value in the data base  
d7     Long ANSI threshold value in the data base  
d8     NPC number  
d9     UNIT number

283     NPC 15-Minute Near-end Severely Errored Framing Seconds threshold values are inconsistent

The 15-Minute Near-end Severely Errored Framing Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0     Long ANSI threshold value in the hardware  
d1     Long ANSI threshold value in the hardware  
d2     Long ANSI threshold value in the hardware  
d3     Long ANSI threshold value in the hardware  
d4     Long ANSI threshold value in the data base  
d5     Long ANSI threshold value in the data base  
d6     Long ANSI threshold value in the data base  
d7     Long ANSI threshold value in the data base  
d8     NPC number  
d9     UNIT number

284 NPC 15-Minute Near-end Controlled Slip Seconds threshold values are inconsistent

The 15-Minute Near-end Controlled Slip Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

|    |                                            |
|----|--------------------------------------------|
| d0 | Long ANSI threshold value in the hardware  |
| d1 | Long ANSI threshold value in the hardware  |
| d2 | Long ANSI threshold value in the hardware  |
| d3 | Long ANSI threshold value in the hardware  |
| d4 | Long ANSI threshold value in the data base |
| d5 | Long ANSI threshold value in the data base |
| d6 | Long ANSI threshold value in the data base |
| d7 | Long ANSI threshold value in the data base |
| d8 | NPC number                                 |
| d9 | UNIT number                                |

285 NPC 15-Minute Near-end Unavailable Seconds threshold values are inconsistent

The 15-Minute Near-end Unavailable Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

|    |                                            |
|----|--------------------------------------------|
| d0 | Long ANSI threshold value in the hardware  |
| d1 | Long ANSI threshold value in the hardware  |
| d2 | Long ANSI threshold value in the hardware  |
| d3 | Long ANSI threshold value in the hardware  |
| d4 | Long ANSI threshold value in the data base |
| d5 | Long ANSI threshold value in the data base |
| d6 | Long ANSI threshold value in the data base |
| d7 | Long ANSI threshold value in the data base |
| d8 | NPC number                                 |
| d9 | UNIT number                                |

286      NPC 15-Minute Near-end Line Coding Violations threshold values  
         are inconsistent

The 15-Minute Near-end Line Coding Violations of the ANSI NPC  
threshold value stored in the unit data base does not match that  
stored in the hardware

d0      Long ANSI threshold value in the hardware  
d1      Long ANSI threshold value in the hardware  
d2      Long ANSI threshold value in the hardware  
d3      Long ANSI threshold value in the hardware  
d4      Long ANSI threshold value in the data base  
d5      Long ANSI threshold value in the data base  
d6      Long ANSI threshold value in the data base  
d7      Long ANSI threshold value in the data base  
d8      NPC number  
d9      UNIT number

287      NPC 15-Minute Near-end Line Errored Seconds threshold values  
         are inconsistent

The 15-Minute Near-end Line Errored Seconds of the ANSI NPC threshold  
value stored in the unit data base does not match that stored in the  
hardware

d0      Long ANSI threshold value in the hardware  
d1      Long ANSI threshold value in the hardware  
d2      Long ANSI threshold value in the hardware  
d3      Long ANSI threshold value in the hardware  
d4      Long ANSI threshold value in the data base  
d5      Long ANSI threshold value in the data base  
d6      Long ANSI threshold value in the data base  
d7      Long ANSI threshold value in the data base  
d8      NPC number  
d9      UNIT number

288      NPC 15-Minute Near-end Line Severely Errored Seconds threshold values are inconsistent

The 15-Minute Near-end Line Severely Errored Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0      Long ANSI threshold value in the hardware  
d1      Long ANSI threshold value in the hardware  
d2      Long ANSI threshold value in the hardware  
d3      Long ANSI threshold value in the hardware  
d4      Long ANSI threshold value in the data base  
d5      Long ANSI threshold value in the data base  
d6      Long ANSI threshold value in the data base  
d7      Long ANSI threshold value in the data base  
d8      NPC number  
d9      UNIT number

289      NPC 15-Minute Far-end Path Coding Violations threshold values are inconsistent

The 15-Minute Far-end Path Coding Violations of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0      Long ANSI threshold value in the hardware  
d1      Long ANSI threshold value in the hardware  
d2      Long ANSI threshold value in the hardware  
d3      Long ANSI threshold value in the hardware  
d4      Long ANSI threshold value in the data base  
d5      Long ANSI threshold value in the data base  
d6      Long ANSI threshold value in the data base  
d7      Long ANSI threshold value in the data base  
d8      NPC number  
d9      UNIT number

28A NPC 15-Minute Far-end Path Errored Seconds threshold values are inconsistent

The 15-Minute Far-end Path Errored Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

|    |                                            |
|----|--------------------------------------------|
| d0 | Long ANSI threshold value in the hardware  |
| d1 | Long ANSI threshold value in the hardware  |
| d2 | Long ANSI threshold value in the hardware  |
| d3 | Long ANSI threshold value in the hardware  |
| d4 | Long ANSI threshold value in the data base |
| d5 | Long ANSI threshold value in the data base |
| d6 | Long ANSI threshold value in the data base |
| d7 | Long ANSI threshold value in the data base |
| d8 | NPC number                                 |
| d9 | UNIT number                                |

28B NPC 15-Minute Far-end Path Severely Errored Seconds threshold values are inconsistent

The 15-Minute Far-end Path Severely Errored Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

|    |                                            |
|----|--------------------------------------------|
| d0 | Long ANSI threshold value in the hardware  |
| d1 | Long ANSI threshold value in the hardware  |
| d2 | Long ANSI threshold value in the hardware  |
| d3 | Long ANSI threshold value in the hardware  |
| d4 | Long ANSI threshold value in the data base |
| d5 | Long ANSI threshold value in the data base |
| d6 | Long ANSI threshold value in the data base |
| d7 | Long ANSI threshold value in the data base |
| d8 | NPC number                                 |
| d9 | UNIT number                                |

28C    NPC 15-Minute Far-end Severely Errored Framing Seconds threshold values are inconsistent

The 15-Minute Far-end Severely Errored Framing Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0    Long ANSI threshold value in the hardware  
d1    Long ANSI threshold value in the hardware  
d2    Long ANSI threshold value in the hardware  
d3    Long ANSI threshold value in the hardware  
d4    Long ANSI threshold value in the data base  
d5    Long ANSI threshold value in the data base  
d6    Long ANSI threshold value in the data base  
d7    Long ANSI threshold value in the data base  
d8    NPC number  
d9    UNIT number

28D    NPC 15-Minute Far-end Controlled Slip Seconds threshold values are inconsistent

The 15-Minute Far-end Controlled Slip Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0    Long ANSI threshold value in the hardware  
d1    Long ANSI threshold value in the hardware  
d2    Long ANSI threshold value in the hardware  
d3    Long ANSI threshold value in the hardware  
d4    Long ANSI threshold value in the data base  
d5    Long ANSI threshold value in the data base  
d6    Long ANSI threshold value in the data base  
d7    Long ANSI threshold value in the data base  
d8    NPC number  
d9    UNIT number

28E     NPC 15-Minute Far-end Unavailable Seconds threshold values are inconsistent

The 15-Minute Far-end Unavailable Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

|    |                                            |
|----|--------------------------------------------|
| d0 | Long ANSI threshold value in the hardware  |
| d1 | Long ANSI threshold value in the hardware  |
| d2 | Long ANSI threshold value in the hardware  |
| d3 | Long ANSI threshold value in the hardware  |
| d4 | Long ANSI threshold value in the data base |
| d5 | Long ANSI threshold value in the data base |
| d6 | Long ANSI threshold value in the data base |
| d7 | Long ANSI threshold value in the data base |
| d8 | NPC number                                 |
| d9 | UNIT number                                |

28F     NPC 15-Minute Far-end Line Errored Seconds threshold values are inconsistent

The 15-Minute Far-end Line Errored Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

|    |                                            |
|----|--------------------------------------------|
| d0 | Long ANSI threshold value in the hardware  |
| d1 | Long ANSI threshold value in the hardware  |
| d2 | Long ANSI threshold value in the hardware  |
| d3 | Long ANSI threshold value in the hardware  |
| d4 | Long ANSI threshold value in the data base |
| d5 | Long ANSI threshold value in the data base |
| d6 | Long ANSI threshold value in the data base |
| d7 | Long ANSI threshold value in the data base |
| d8 | NPC number                                 |
| d9 | UNIT number                                |



290 NPC Daily CRC Block Error Count threshold values are inconsistent

The Daily CRC Block Error Count of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware  
d1 Long enhanced-30-channel threshold value in the hardware  
d2 Long enhanced-30-channel threshold value in the hardware  
d3 Long enhanced-30-channel threshold value in the hardware  
d4 Long enhanced-30-channel threshold value in the data base  
d5 Long enhanced-30-channel threshold value in the data base  
d6 Long enhanced-30-channel threshold value in the data base  
d7 Long enhanced-30-channel threshold value in the data base  
d8 NPC number  
d9 UNIT number

291 NPC Daily Framing Error Count threshold values are inconsistent

The Daily Framing Error Count of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware  
d1 Long enhanced-30-channel threshold value in the hardware  
d2 Long enhanced-30-channel threshold value in the hardware  
d3 Long enhanced-30-channel threshold value in the hardware  
d4 Long enhanced-30-channel threshold value in the data base  
d5 Long enhanced-30-channel threshold value in the data base  
d6 Long enhanced-30-channel threshold value in the data base  
d7 Long enhanced-30-channel threshold value in the data base  
d8 NPC number  
d9 UNIT number

292 NPC Daily Out of Frame Seconds threshold values are inconsistent

The Daily Out of Frame Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

- d0 Long enhanced-30-channel threshold value in the hardware
- d1 Long enhanced-30-channel threshold value in the hardware
- d2 Long enhanced-30-channel threshold value in the hardware
- d3 Long enhanced-30-channel threshold value in the hardware
- d4 Long enhanced-30-channel threshold value in the data base
- d5 Long enhanced-30-channel threshold value in the data base
- d6 Long enhanced-30-channel threshold value in the data base
- d7 Long enhanced-30-channel threshold value in the data base
- d8 NPC number
- d9 UNIT number

293 NPC Errored Seconds threshold values are inconsistent

The Errored Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

- d0 Long enhanced-30-channel threshold value in the hardware
- d1 Long enhanced-30-channel threshold value in the hardware
- d2 Long enhanced-30-channel threshold value in the hardware
- d3 Long enhanced-30-channel threshold value in the hardware
- d4 Long enhanced-30-channel threshold value in the data base
- d5 Long enhanced-30-channel threshold value in the data base
- d6 Long enhanced-30-channel threshold value in the data base
- d7 Long enhanced-30-channel threshold value in the data base
- d8 NPC number
- d9 UNIT number

- 294      NPC Daily Severely Errored Seconds threshold values are inconsistent

The Daily Severely Errored Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

- d0      Long enhanced-30-channel threshold value in the hardware
- d1      Long enhanced-30-channel threshold value in the hardware
- d2      Long enhanced-30-channel threshold value in the hardware
- d3      Long enhanced-30-channel threshold value in the hardware
- d4      Long enhanced-30-channel threshold value in the data base
- d5      Long enhanced-30-channel threshold value in the data base
- d6      Long enhanced-30-channel threshold value in the data base
- d7      Long enhanced-30-channel threshold value in the data base
- d8      NPC number
- d9      UNIT number

- 295      NPC Daily Controlled Slip Seconds threshold values are inconsistent

The Daily Controlled Slip Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

- d0      Long enhanced-30-channel threshold value in the hardware
- d1      Long enhanced-30-channel threshold value in the hardware
- d2      Long enhanced-30-channel threshold value in the hardware
- d3      Long enhanced-30-channel threshold value in the hardware
- d4      Long enhanced-30-channel threshold value in the data base
- d5      Long enhanced-30-channel threshold value in the data base
- d6      Long enhanced-30-channel threshold value in the data base
- d7      Long enhanced-30-channel threshold value in the data base
- d8      NPC number
- d9      UNIT number

296 NPC Daily Code Violation Count threshold values are inconsistent

The Daily Code Violation Count of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

- d0 Long enhanced-30-channel threshold value in the hardware
- d1 Long enhanced-30-channel threshold value in the hardware
- d2 Long enhanced-30-channel threshold value in the hardware
- d3 Long enhanced-30-channel threshold value in the hardware
- d4 Long enhanced-30-channel threshold value in the data base
- d5 Long enhanced-30-channel threshold value in the data base
- d6 Long enhanced-30-channel threshold value in the data base
- d7 Long enhanced-30-channel threshold value in the data base
- d8 NPC number
- d9 UNIT number

297 NPC Daily Unavailable Seconds threshold values are inconsistent

The Daily Unavailable Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

- d0 Long enhanced-30-channel threshold value in the hardware
- d1 Long enhanced-30-channel threshold value in the hardware
- d2 Long enhanced-30-channel threshold value in the hardware
- d3 Long enhanced-30-channel threshold value in the hardware
- d4 Long enhanced-30-channel threshold value in the data base
- d5 Long enhanced-30-channel threshold value in the data base
- d6 Long enhanced-30-channel threshold value in the data base
- d7 Long enhanced-30-channel threshold value in the data base
- d8 NPC number
- d9 UNIT number

- 298      NPC Daily Unavailable Time Count threshold values are inconsistent

The Daily Unavailable Time Count of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

- d0      Long enhanced-30-channel threshold value in the hardware
- d1      Long enhanced-30-channel threshold value in the hardware
- d2      Long enhanced-30-channel threshold value in the hardware
- d3      Long enhanced-30-channel threshold value in the hardware
- d4      Long enhanced-30-channel threshold value in the data base
- d5      Long enhanced-30-channel threshold value in the data base
- d6      Long enhanced-30-channel threshold value in the data base
- d7      Long enhanced-30-channel threshold value in the data base
- d8      NPC number
- d9      UNIT number

- 299      NPC Daily Multiframe Alignment Error Count threshold values are inconsistent

The Daily Multiframe Alignment Error Count of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

- d0      Long enhanced-30-channel threshold value in the hardware
- d1      Long enhanced-30-channel threshold value in the hardware
- d2      Long enhanced-30-channel threshold value in the hardware
- d3      Long enhanced-30-channel threshold value in the hardware
- d4      Long enhanced-30-channel threshold value in the data base
- d5      Long enhanced-30-channel threshold value in the data base
- d6      Long enhanced-30-channel threshold value in the data base
- d7      Long enhanced-30-channel threshold value in the data base
- d8      NPC number
- d9      UNIT number

- 29A    NPC Daily Far End Block Error Count threshold values are inconsistent

The Daily Far End Block Error Count of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

- d0    Long enhanced-30-channel threshold value in the hardware
- d1    Long enhanced-30-channel threshold value in the hardware
- d2    Long enhanced-30-channel threshold value in the hardware
- d3    Long enhanced-30-channel threshold value in the hardware
- d4    Long enhanced-30-channel threshold value in the data base
- d5    Long enhanced-30-channel threshold value in the data base
- d6    Long enhanced-30-channel threshold value in the data base
- d7    Long enhanced-30-channel threshold value in the data base
- d8    NPC number
- d9    UNIT number

- 29B    NPC Daily Far End Errored Seconds threshold values are inconsistent

The Daily Far End Errored Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

- d0    Long enhanced-30-channel threshold value in the hardware
- d1    Long enhanced-30-channel threshold value in the hardware
- d2    Long enhanced-30-channel threshold value in the hardware
- d3    Long enhanced-30-channel threshold value in the hardware
- d4    Long enhanced-30-channel threshold value in the data base
- d5    Long enhanced-30-channel threshold value in the data base
- d6    Long enhanced-30-channel threshold value in the data base
- d7    Long enhanced-30-channel threshold value in the data base
- d8    NPC number
- d9    UNIT number

29C NPC Daily Far End Severely Errored Seconds threshold values are inconsistent

The Daily Far End Severely Errored Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

- d0 Long enhanced-30-channel threshold value in the hardware
- d1 Long enhanced-30-channel threshold value in the hardware
- d2 Long enhanced-30-channel threshold value in the hardware
- d3 Long enhanced-30-channel threshold value in the hardware
- d4 Long enhanced-30-channel threshold value in the data base
- d5 Long enhanced-30-channel threshold value in the data base
- d6 Long enhanced-30-channel threshold value in the data base
- d7 Long enhanced-30-channel threshold value in the data base
- d8 NPC number
- d9 UNIT number

29D NPC Daily Far End Unavailable Seconds threshold values are inconsistent

The Daily Far End Unavailable Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

- d0 Long enhanced-30-channel threshold value in the hardware
- d1 Long enhanced-30-channel threshold value in the hardware
- d2 Long enhanced-30-channel threshold value in the hardware
- d3 Long enhanced-30-channel threshold value in the hardware
- d4 Long enhanced-30-channel threshold value in the data base
- d5 Long enhanced-30-channel threshold value in the data base
- d6 Long enhanced-30-channel threshold value in the data base
- d7 Long enhanced-30-channel threshold value in the data base
- d8 NPC number
- d9 UNIT number

29E     NPC 15-Minute CRC Block Error Count threshold values are  
         inconsistent

The 15-Minute CRC Block Error Count of the enhanced-30-channel NPC  
threshold value stored in the unit data base does not match that  
stored in the hardware

d0     Long enhanced-30-channel threshold value in the hardware  
d1     Long enhanced-30-channel threshold value in the hardware  
d2     Long enhanced-30-channel threshold value in the hardware  
d3     Long enhanced-30-channel threshold value in the hardware  
d4     Long enhanced-30-channel threshold value in the data base  
d5     Long enhanced-30-channel threshold value in the data base  
d6     Long enhanced-30-channel threshold value in the data base  
d7     Long enhanced-30-channel threshold value in the data base  
d8     NPC number  
d9     UNIT number

29F     NPC 15-Minute Framing Error Count threshold values are  
         inconsistent

The 15-Minute Framing Error Count of the enhanced-30-channel NPC  
threshold value stored in the unit data base does not match that  
stored in the hardware

d0     Long enhanced-30-channel threshold value in the hardware  
d1     Long enhanced-30-channel threshold value in the hardware  
d2     Long enhanced-30-channel threshold value in the hardware  
d3     Long enhanced-30-channel threshold value in the hardware  
d4     Long enhanced-30-channel threshold value in the data base  
d5     Long enhanced-30-channel threshold value in the data base  
d6     Long enhanced-30-channel threshold value in the data base  
d7     Long enhanced-30-channel threshold value in the data base  
d8     NPC number  
d9     UNIT number



2A0 NPC 15-Minute Out of Frame Seconds threshold values are inconsistent

The 15-Minute Out of Frame Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware  
d1 Long enhanced-30-channel threshold value in the hardware  
d2 Long enhanced-30-channel threshold value in the hardware  
d3 Long enhanced-30-channel threshold value in the hardware  
d4 Long enhanced-30-channel threshold value in the data base  
d5 Long enhanced-30-channel threshold value in the data base  
d6 Long enhanced-30-channel threshold value in the data base  
d7 Long enhanced-30-channel threshold value in the data base  
d8 NPC number  
d9 UNIT number

2A1 NPC 15-Minute Errored Seconds threshold values are inconsistent

The 15-Minute Errored Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware  
d1 Long enhanced-30-channel threshold value in the hardware  
d2 Long enhanced-30-channel threshold value in the hardware  
d3 Long enhanced-30-channel threshold value in the hardware  
d4 Long enhanced-30-channel threshold value in the data base  
d5 Long enhanced-30-channel threshold value in the data base  
d6 Long enhanced-30-channel threshold value in the data base  
d7 Long enhanced-30-channel threshold value in the data base  
d8 NPC number  
d9 UNIT number

2A2 NPC 15-Minute Severely Errored Seconds threshold values are inconsistent

The 15-Minute Severely Errored Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware  
d1 Long enhanced-30-channel threshold value in the hardware  
d2 Long enhanced-30-channel threshold value in the hardware  
d3 Long enhanced-30-channel threshold value in the hardware  
d4 Long enhanced-30-channel threshold value in the data base  
d5 Long enhanced-30-channel threshold value in the data base  
d6 Long enhanced-30-channel threshold value in the data base  
d7 Long enhanced-30-channel threshold value in the data base  
d8 NPC number  
d9 UNIT number

2A3 NPC 15-Minute Controlled Slip Seconds threshold values are inconsistent

The 15-Minute Controlled Slip Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware  
d1 Long enhanced-30-channel threshold value in the hardware  
d2 Long enhanced-30-channel threshold value in the hardware  
d3 Long enhanced-30-channel threshold value in the hardware  
d4 Long enhanced-30-channel threshold value in the data base  
d5 Long enhanced-30-channel threshold value in the data base  
d6 Long enhanced-30-channel threshold value in the data base  
d7 Long enhanced-30-channel threshold value in the data base  
d8 NPC number  
d9 UNIT number

2A4 NPC 15-Minute Code Violation Count threshold values are inconsistent

The 15-Minute Code Violation Count of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware  
d1 Long enhanced-30-channel threshold value in the hardware  
d2 Long enhanced-30-channel threshold value in the hardware  
d3 Long enhanced-30-channel threshold value in the hardware  
d4 Long enhanced-30-channel threshold value in the data base  
d5 Long enhanced-30-channel threshold value in the data base  
d6 Long enhanced-30-channel threshold value in the data base  
d7 Long enhanced-30-channel threshold value in the data base  
d8 NPC number  
d9 UNIT number

2A5 NPC 15-Minute Unavailable Seconds threshold values are inconsistent

The 15-Minute Unavailable Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware  
d1 Long enhanced-30-channel threshold value in the hardware  
d2 Long enhanced-30-channel threshold value in the hardware  
d3 Long enhanced-30-channel threshold value in the hardware  
d4 Long enhanced-30-channel threshold value in the data base  
d5 Long enhanced-30-channel threshold value in the data base  
d6 Long enhanced-30-channel threshold value in the data base  
d7 Long enhanced-30-channel threshold value in the data base  
d8 NPC number  
d9 UNIT number

2A6 NPC 15-Minute Unavailable Time Count threshold values are inconsistent

The 15-Minute Unavailable Time Count of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware  
d1 Long enhanced-30-channel threshold value in the hardware  
d2 Long enhanced-30-channel threshold value in the hardware  
d3 Long enhanced-30-channel threshold value in the hardware  
d4 Long enhanced-30-channel threshold value in the data base  
d5 Long enhanced-30-channel threshold value in the data base  
d6 Long enhanced-30-channel threshold value in the data base  
d7 Long enhanced-30-channel threshold value in the data base  
d8 NPC number  
d9 UNIT number

2A7 NPC 15-Minute Multiframe Alignment Error Count threshold values are inconsistent

The 15-Minute Multiframe Alignment Error Count of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware  
d1 Long enhanced-30-channel threshold value in the hardware  
d2 Long enhanced-30-channel threshold value in the hardware  
d3 Long enhanced-30-channel threshold value in the hardware  
d4 Long enhanced-30-channel threshold value in the data base  
d5 Long enhanced-30-channel threshold value in the data base  
d6 Long enhanced-30-channel threshold value in the data base  
d7 Long enhanced-30-channel threshold value in the data base  
d8 NPC number  
d9 UNIT number

2A8 NPC 15-Minute Far End Block Error Count threshold values are inconsistent

The 15-Minute Far End Block Error Count of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware  
d1 Long enhanced-30-channel threshold value in the hardware  
d2 Long enhanced-30-channel threshold value in the hardware  
d3 Long enhanced-30-channel threshold value in the hardware  
d4 Long enhanced-30-channel threshold value in the data base  
d5 Long enhanced-30-channel threshold value in the data base  
d6 Long enhanced-30-channel threshold value in the data base  
d7 Long enhanced-30-channel threshold value in the data base  
d8 NPC number  
d9 UNIT number

2A9 NPC 15-Minute Far End Errored Seconds threshold values are inconsistent

The 15-Minute Far End Errored Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware  
d1 Long enhanced-30-channel threshold value in the hardware  
d2 Long enhanced-30-channel threshold value in the hardware  
d3 Long enhanced-30-channel threshold value in the hardware  
d4 Long enhanced-30-channel threshold value in the data base  
d5 Long enhanced-30-channel threshold value in the data base  
d6 Long enhanced-30-channel threshold value in the data base  
d7 Long enhanced-30-channel threshold value in the data base  
d8 NPC number  
d9 UNIT number

2AA NPC 15-Minute Far End Severely Errored Seconds threshold values are inconsistent

The 15-Minute Far End Severely Errored Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware  
d1 Long enhanced-30-channel threshold value in the hardware  
d2 Long enhanced-30-channel threshold value in the hardware  
d3 Long enhanced-30-channel threshold value in the hardware  
d4 Long enhanced-30-channel threshold value in the data base  
d5 Long enhanced-30-channel threshold value in the data base  
d6 Long enhanced-30-channel threshold value in the data base  
d7 Long enhanced-30-channel threshold value in the data base  
d8 NPC number  
d9 UNIT number

2AB NPC 15-Minute Far End Unavailable Seconds threshold values are inconsistent

The 15-Minute Far End Unavailable Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware  
d1 Long enhanced-30-channel threshold value in the hardware  
d2 Long enhanced-30-channel threshold value in the hardware  
d3 Long enhanced-30-channel threshold value in the hardware  
d4 Long enhanced-30-channel threshold value in the data base  
d5 Long enhanced-30-channel threshold value in the data base  
d6 Long enhanced-30-channel threshold value in the data base  
d7 Long enhanced-30-channel threshold value in the data base  
d8 NPC number  
d9 UNIT number

2B1 NPC Transmit or Receive Pseudo Framing Word values are inconsistent

The Transmit or Receive Pseudo Framing Word of the NPC mismatch between unit data base and the hardware

d0 The Receive Pseudo Framing Word of NPC from hardware  
d1 The Receive Pseudo Framing Word of NPC from unit data base  
d2 The Transmit Pseudo Framing Word of NPC from hardware  
d3 The Transmit Pseudo Framing Word of NPC from unit data base  
d4 NPC number  
d5 UNIT number

2B2 NPC Non Framing Setting values are inconsistent

The Non Framing Setting value the NPC mismatch between unit data base and the hardware

- d0 Fourth byte the Non Framing Setting of NPC from hardware
- d1 Third byte of the Non Framing Setting of NPC from hardware
- d2 Fourth byte of the Non Framing Setting of NPC from unit data base
- d3 Third byte of the Non Framing Setting of NPC from unit data base
- d4 NPC number
- d5 UNIT number

301 CCN sides is unpested (INS) in DB but pested in hardware (BXREG).

- d0 Not used
- d1 Not used
- d2 Not used
- d3 Not used
- d4 Not used
- d5 CCN side

302 TSI entity is unpested (INS) in DB but pested in hardware (CCNI EMR).

- d0 Not used
- d1 Not used
- d2 Not used
- d3 To UNIT
- d4 From UNIT
- d5 CCNI side

303 CCB entity is unpested (INS) in DB but pested in hardware (CCNI EMR).

- d0 Not used
- d1 Not used
- d2 Not used
- d3 Not used
- d4 CCB number
- d5 CCN side

305 SYNC entity is in-service in DB but cannot communicate with MP.

- d0 Not used
- d1 Not used
- d2 Not used
- d3 Not used
- d4 Not used
- d5 SYNC side

- 306 TLI entity is in-service in DB but out-of-service in SYNC data.
- d0 Syncdata.arch
  - d1 TLI data base flags
  - d2 TLI hardware status
  - d3 Number of times data mismatch verified
  - d4 TLI number
  - d5 SYNC side
- 307 TLR entity is in-service in DB but out-of-service in SYNC data.
- d0 Not used
  - d1 Not used
  - d2 Not used
  - d3 TLR number
  - d4 TLI number
  - d5 SYNC side
- 308 CI links is in-service in DB but out of service in CI hardware data
- d0 Not used
  - d1 Not used
  - d2 Not used
  - d3 Not used
  - d4 Not used
  - d5 link number
- 310 TLR entity priority is different b/t DB and SYNC data (TE and TP)
- d0 Not used
  - d1 SYNC hardware TLR priority
  - d2 Data base priority
  - d3 TLR number
  - d4 TLI number
  - d5 SYNC side
- 311 TLR entity x and y value is different b/t DB and SYNC data
- d0 SYNC hardware y value
  - d1 Data base y value
  - d2 SYNC hardware x value
  - d3 Data base x value
  - d4 [AB] A = TLI number; B = TLR number;
  - d5 SYNC side



312 SYNC entity architect or stratum value is different b/t DB and SYNC.

- d0 SYNC hardware stratum value
  - 0 - domestic stratum 3
  - 1 - CEPT local exchange
  - 2 - CEPT toll exchange
  - 3 - domestic stratum 2
- d1 Data base stratum value
  - 0 - no type defined
  - 1 - stratum 2 sync
  - 2 - stratum 3 sync
  - 3 - CEPT local
  - 4 - CEPT toll
- d2 SYNC hardware architect value
  - 0 - slaved in master-slave system
  - 1 - master in master-slave system
  - 2 - mutual synchronization system
- d3 Data base architect value
  - 0 - no type defined
  - 1 - master in master-slave system
  - 2 - slaved in master-slave system
  - 3 - mutual synchronization system
- d4 Not used
- d5 SYNC side

313 SYNC entity mode is different b/t DB and SYNC data

- d0 Not used
- d1 Not used
- d2 SYNC hardware mode value
  - 0 - normal
  - 1 - fast
  - 2 - holdover
- d3 Data base sync mode value
  - 1 - normal
  - 2 - fast
  - 3 - holdover
- d4 Not used
- d5 SYNC side

314 SYNC timing source or active link is different b/t DB and hardware

d0 SYNC hardware active link

This field is only valid when the source is timing link and the architecture field is slave in the master-slave system

- 0 - TLI #1, Link #0
- 1 - TLI #1, Link #1
- 2 - TLI #2, Link #0
- 3 - TLI #2, Link #1
- 4 - TLI #3, Link #0
- 5 - TLI #3, Link #1
- 6 - TLI #4, Link #0
- 7 - TLI #4, Link #1

d1 Data base sync active link

This field is only valid when the source is timing link and the architecture field is slave in the master-slave system

- 0 - TLI #1, Link #0
- 1 - TLI #1, Link #1
- 2 - TLI #2, Link #0
- 3 - TLI #2, Link #1
- 4 - TLI #3, Link #0
- 5 - TLI #3, Link #1
- 6 - TLI #4, Link #0
- 7 - TLI #4, Link #1

d2 SYNC hardware timing source

- 0 - holdover
- 1 - timing link
- 2 - cross couples
- 3 - CRO

d3 Data base sync timing source

- 1 - holdover
- 2 - timing link
- 3 - cross couples
- 4 - CRO

d4 Not used

d5 SYNC side

315 SYNC TLI type is different b/t DB and SYNC hardware

d0 Not used

d1 Data base TLIs x option if TLI type is TDTYPE

d2 SYNC hardware type

d3 Data base TLI type

d4 TLI number

d5 SYNC side

316 ECCN sides is unpested (INS) in DB but pested in hardware (BXREG).

d0 Not used  
d1 Not used  
d2 Not used  
d3 Not used  
d4 Not used  
d5 ECCN side

317 ETSI entity is unpested (INS) in DB but pested in hardware(CCI EMR).

d0 Not used  
d1 Not used  
d2 Not used  
d3 Not used  
d4 ETSI number  
d5 ECCN side

320 Receive sync upper address different b/t UA DB and PS DB

d0 Not used  
d1 UA value  
d2 PS value  
d3 Channel  
d4 NPC number  
d5 Unit number

321 Receive sync lower address different b/t UA DB and PS DB

d0 Not used  
d1 UA value  
d2 PS value  
d3 Channel  
d4 NPC number  
d5 Unit number

322 Receive sync data b/t UA DB and PS DB

d0 Not used  
d1 UA value  
d2 PS value  
d3 Channel  
d4 NPC number  
d5 Unit number

- 323     PIF data differs b/t UA DB and PS DB
- d0     Not used
  - d1     UA value
  - d2     PS value
  - d3     Not used
  - d4     MXR number
  - d5     Unit number
- 324     Receive frame mode A differs b/t UA DB and PS DB
- d0     Not used
  - d1     UA value
  - d2     PS value
  - d3     NPC
  - d4     MXR number
  - d5     Unit number
- 325     Receive frame mode B differs b/t UA DB and PS DB
- d0     Not used
  - d1     UA value
  - d2     PS value
  - d3     NPC
  - d4     MXR number
  - d5     Unit number
- 326     Receive sync mode A differs b/t UA DB and PS DB
- d0     Not used
  - d1     UA value
  - d2     PS value
  - d3     NPC
  - d4     MXR number
  - d5     Unit number
- 327     Receive sync mode B differs b/t UA DB and PS DB
- d0     Not used
  - d1     UA value
  - d2     PS value
  - d3     NPC
  - d4     MXR number
  - d5     Unit number

328 Transmit framing mode differs b/t UA DB and PS DB

d0 Not used  
d1 UA value  
d2 PS value  
d3 NPC  
d4 MXR number  
d5 Unit number

329 Transmit signaling mode differs b/t UA DB and PS DB

d0 Not used  
d1 UA value  
d2 PS value  
d3 NPC  
d4 MXR number  
d5 Unit number

32A Transmit system mode differs b/t UA DB and PS DB

d0 Not used  
d1 UA value  
d2 PS value  
d3 NPC  
d4 MXR number  
d5 Unit number

32B Even NPC receive ams 0 value differs b/t UA DB and PS DB

d0 Not used  
d1 UA value  
d2 PS value  
d3 Channel  
d4 NPC number  
d5 Unit number

32C Even NPC receive ams 1 value differs b/t UA DB and PS DB

d0 Not used  
d1 UA value  
d2 PS value  
d3 Channel  
d4 NPC number  
d5 Unit number

32D Even NPC receive ams 2 value differs b/t UA DB and PS DB

d0 Not used  
d1 UA value  
d2 PS value  
d3 Channel  
d4 NPC number  
d5 Unit number

32E Even NPC transmit ams 0 value differs b/t UA DB and PS DB

d0 Not used  
d1 UA value  
d2 PS value  
d3 Channel  
d4 NPC number  
d5 Unit number

32F Even NPC transmit ams 1 value differs b/t UA DB and PS DB

d0 Not used  
d1 UA value  
d2 PS value  
d3 Channel  
d4 NPC number  
d5 Unit number

330 Even NPC transmit ams 2 value differs b/t UA DB and PS DB

d0 Not used  
d1 UA value  
d2 PS value  
d3 Channel  
d4 NPC number  
d5 Unit number

331 Odd NPC receive ams 0 value differs b/t UA DB and PS DB

d0 Not used  
d1 UA value  
d2 PS value  
d3 Channel  
d4 NPC number  
d5 Unit number

- 332      Odd NPC receive ams 1 value differs b/t UA DB and PS DB
- d0      Not used
  - d1      UA value
  - d2      PS value
  - d3      Channel
  - d4      NPC number
  - d5      Unit number
- 333      Odd NPC receive ams 2 value differs b/t UA DB and PS DB
- d0      Not used
  - d1      UA value
  - d2      PS value
  - d3      Channel
  - d4      NPC number
  - d5      Unit number
- 334      Odd NPC transmit ams 0 value differs b/t UA DB and PS DB
- d0      Not used
  - d1      UA value
  - d2      PS value
  - d3      Channel
  - d4      NPC number
  - d5      Unit number
- 335      Odd NPC transmit ams 1 value differs b/t UA DB and PS DB
- d0      Not used
  - d1      UA value
  - d2      PS value
  - d3      Channel
  - d4      NPC number
  - d5      Unit number
- 336      Odd NPC transmit ams 2 value differs b/t UA DB and PS DB
- d0      Not used
  - d1      UA value
  - d2      PS value
  - d3      Channel
  - d4      NPC number
  - d5      Unit number

## **FRADTS,MC,DGN**

### **FRAME AUDITS MAIN CONTROLLER**

#### **Explanation Of Command**

This autonomous output message from frame audits indicates that a diagnostic test was run on the main controller (MC) but failed.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.82004]

I hh:mm:ss xy,ww FRADTS MC DGN <tt> COMPL



### **Explanation Of Parameters**

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**MC** - Main controller

**DGN** - Diagnose

**tt** - Entity identifier

**tt** *Explanation*

**BX** Bus Extender RAM

**CI** Communications Interface

**EBX** Expanded Bus Extender RAM

**EMTC** Expanded Maintenance Circuit

**MP** Main Processor

**MTC** Maintenance Circuit

**PMEM** Primary Memory Device

**SMEM** Secondary Memory Device

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## GRTH

---

This section documents the **GRTH** command.

## **GRTH,FRAME,CHAR,UID**

### **GROWTH FRAME**

#### **Explanation Of Command**

This command allows the optional frame identifier and unique frame identifier to be set.

Until this command is used, the frame identifier defaults to 00.

#### **⇒ NOTE:**

**Note:** If the frame identifier is protected (hard wired), it cannot be changed by this command.

The **CHAR** field determines the number of characters in the frame identifier (2 is the default).

For DACS II Capacity Expansion Frames (CEF), this command also results in the provisioning of virtual NPCs [9]961, [9]962, [9]963, [9]964, [9]965, and [9]966 (99101, 99102, 99103, 99104, 99105, and 99106 in the hierarchical NPC numbering format), default type VI100.

For Non-CEF frames, this command also results in the provisioning of virtual NPCs 961 and 962 (99101 and 99102 in the hierarchical NPC numbering format), default type VI100. This NPC type may be changed if necessary by the **CHG : NPC, TYPE** command (Message 38211).

#### **Command**

[I.30101]

**GRTH:FRM xy,SEQ ww:FRAME fg[,CHAR m][,UID <uid>]!**



### **Completion Message**

---

[O.30101]

M hh:mm:ss fg,ww n[vv] GRTH FRAME fg CHAR m UID [<uid>] COMPL

### **Denial Message**

---

[O.30101.01]

M hh:mm:ss xy,ww n[vv] GRTH FRAME fg CHAR m UID [<uid>] \  
COND cc DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**FRAME** - Frame

**fg** - Frame identifier. (alphanumeric, 01 through ZZ).

The frame identifier is required. If the disk-stored frame identifier is 00, then this command sets the frame identifier to fg. Until the GRTH::FRAME command is used, the frame number defaults to 00.

The frame identifier is used in input and output messages.

**CHAR** - Character

**m** - The number of characters in the frame identifier. (2 or 3).

**UID** - Unique identifier

**uid** - Unique frame identifier. (1 to 20 alphanumeric characters)

If the UID field is entered, the unique frame identifier will be assigned the value of uid.

**cc** - Hexadecimal condition code

**cc** *Explanation*

**81** Frame ID is protected

## **GRTH,NPC,NPCTG**

### **GROWTH TEST-ACCESS GROUP NPC**

#### **Explanation Of Command**

This command is used to designate a network processing circuit (NPC) as a test-access group NPC (NPCTG).

To provision an individual test-access group (TG) use the GRTH::TG,NPCTG command

#### **Command**

##### **Nonhierarchical**

[I.31401]

GRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTG rrr!

##### **Hierarchical**

[I.31401]

GRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTG rrr!

#### **Completion Message**

##### **Nonhierarchical**

[O.31401]

M hh:mm:ss xy,ww n[vv] GRTH NPC [s]abc NPCTG rrr COMPL

### **Hierarchical**

[O.31401]

M hh:mm:ss xy,ww n[vv] GRTH NPC uvmnp NPCTG rrr COMPL

### **Denial Message**

### **Nonhierarchical**

[O.31401.01]

M hh:mm:ss xy,ww n[vv] GRTH NPC [s]abc NPCTG rrr COND cc DNY

### **Hierarchical**

[O.31401.01]

M hh:mm:ss xy,ww n[vv] GRTH NPC uvmnp NPCTG rrr COND cc DNY

### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                              |                              |                              |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |

| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The valid values are:

DE type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**NPCTG** - NPC (for) test group

**rrr** - Test-access Group NPC number (1 through 400)  
NPC used as a test-access group NPC.

**COND** - Condition



**cc** - Hexadecimal condition code

**cc** *Explanation*

- 01** Subject entity is equipped
- 15** NPC is unequipped
- 26** NPC type error
- 83** Attention: preceding ccode 83 is an anomaly - see problem list
- 85** NPC has been designated as NPCTP
- 10** NPC out of service or failed
- 57** Designated TG or circuit to be tested in process of being rolled
- A1** NPC has been designated as NPCTG
- A2** All channels assigned, cannot be grown as NPCTG

## **GRTH,NPC,NPCTP**

### **GROWTH TEST PORT NPC**

#### **Explanation Of Command**

This message requests the designation of a Network Processing Circuit as a test port NPC.

The growth of an individual test port is described in GRTH,TP.

#### **Command**

##### **Nonhierarchical**

[I.31381]

GRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTP n!

##### **Hierarchical**

[I.31381]

GRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTP n!

#### **Completion Message**

##### **Nonhierarchical**

[O.31381]

M hh:mm:ss xy,ww n[vv] GRTH NPC [s]abc NPCTP n TPS kk-mm\  
COMPL

### **Hierarchical**

[O.31381]

M hh:mm:ss xy,ww n[vv] GRTH NPC uvmnp NPCTP n TPS kk-mm\  
COMPL

### **Denial Message**

### **Nonhierarchical**

[O.31381.01]

M hh:mm:ss xy,ww n[vv] GRTH NPC [s]abc NPCTP n COND cc DNY

### **Hierarchical**

[O.31381.01]

M hh:mm:ss xy,ww n[vv] GRTH NPC uvmnp NPCTP n COND cc DNY

### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The valid values are:

DE type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

Unit    Module NPC  
**01-16 1-4    01-40**

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

Unit    Module    NPC  
**01-16    1-6    01-28**

**NPCTP** - NPC (for) test ports

**n** - Test Port NPC number (must be in the range from 1 to 8).

**TPS** - Test Ports

**kk, mm** - Test port numbers

| <i>n</i> | <i>kk</i> | <i>mm</i> |
|----------|-----------|-----------|
| 1        | 01        | 12        |
| 2        | 13        | 24        |
| 3        | 25        | 36        |
| 4        | 37        | 48        |
| 5        | 49        | 60        |
| 6        | 61        | 72        |
| 7        | 73        | 84        |
| 8        | 85        | 96        |

**cc** - Hexadecimal condition code

**cc**    *Explanation*

|           |                                                                |
|-----------|----------------------------------------------------------------|
| <b>00</b> | No conditions                                                  |
| <b>01</b> | Subject entity is equipped                                     |
| <b>15</b> | NPC is unequipped                                              |
| <b>26</b> | NPC type error                                                 |
| <b>2F</b> | Channels assigned, cannot be grown as test port                |
| <b>83</b> | Attention: preceding ccode 83 is an anomaly - see problem list |
| <b>85</b> | NPC has been designated as NPCTP                               |
| <b>19</b> | Test ports must be on CAS                                      |
| <b>FF</b> | Termination is in process of being rolled                      |
| <b>A1</b> | NPC has been designated as NPCTG                               |

## **GRTH,NPC,TYPE**

### **PROVISION DIGITAL SIGNAL PROCESSING UNIT NPC**

#### **Explanation Of Command**

This command is used to request the provisioning of a signaling conversion circuit pack in an integrated facility terminating unit. This pack performs signaling conversion between an E1 NPC and T1 NPC. Two time slots are allocated per cross-connected circuit; one for the E1 side and one for the T1 side. A maximum of 32 cross-connections can be processed per signaling conversion circuit pack.

Only odd numbered NPCs may be provisioned. The next higher even numbered NPC is not available for other NPC types and must be unequipped when the SP100 NPC is provisioned. When specifying a range of NPCs to be provisioned the beginning and end of the range must be specified as odd numbers and must not extend into a domestic module.

#### **Command**

##### **Nonhierarchical**

[I.31331]

**GRTH:[FRM xy,SEQ ww]:NPC [s]abc[-[t]def],TYPE mnxyz!**

##### **Hierarchical**

[I.31331]

**GRTH:[FRM xy,SEQ ww]:NPC uvmnp[-wxkqr],TYPE mnxyz!**

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.31331]

M hh:mm:ss xy,ww n[vv] GRTH NPC [s]abc[-[t]def] TYPE mnxyz COMPL

#### **Hierarchical**

---

[O.31331]

M hh:mm:ss xy,ww n[vv] GRTH NPC uvmnp[-wxkqr] TYPE mnxyz COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.31331.01]

M hh:mm:ss xy,ww n[vv] GRTH NPC [s]abc[-[t]def] TYPE mnxyz EQD DNY

[O.31331.02]

M hh:mm:ss xy,ww n[vv] GRTH NPC [s]abc[-[t]def] TYPE mnxyz COND cc DNY

#### **Hierarchical**

---

[O.31331.01]

M hh:mm:ss xy,ww n[vv] GRTH NPC uvmnp[-wxkqr] TYPE mnxyz EQD DNY

[O.31331.02]

M hh:mm:ss xy,ww n[vv] GRTH NPC uvmnp[-wxkqr] TYPE mnxyz COND cc DNY

### **Autonomous Message**

---

Not applicable.



## Explanation Of Parameters

**NPC** - Network Processing Circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

**[t]def** - The 3- or 4-digit nonhierarchical NPC number designating the end of a range specification

**Note:** Only ODD NPC numbers are valid in the tables listed below. The even numbered NPC is not available for any other NPC type.

If NPC numbers are expressed in three digits, the valid values are:

SP type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-031</b> | <b>161-191</b> | <b>321-351</b> | <b>481-511</b> | <b>641-671</b> | <b>801-831</b> |
| <b>041-071</b> | <b>201-231</b> | <b>361-391</b> | <b>521-551</b> | <b>681-711</b> | <b>841-871</b> |
| <b>081-111</b> | <b>241-271</b> | <b>401-431</b> | <b>561-591</b> | <b>721-751</b> | <b>881-911</b> |
| <b>121-151</b> | <b>281-311</b> | <b>441-471</b> | <b>601-631</b> | <b>761-791</b> | <b>921-951</b> |

If NPC numbers are expressed in four digits, the valid values are:

SP type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0031</b> | <b>0161-0191</b> | <b>0321-0351</b> | <b>0481-0511</b> |
| <b>0041-0071</b> | <b>0201-0231</b> | <b>0361-0391</b> | <b>0521-0551</b> |
| <b>0081-0111</b> | <b>0241-0271</b> | <b>0401-0431</b> | <b>0561-0591</b> |
| <b>0121-0151</b> | <b>0281-0311</b> | <b>0441-0471</b> | <b>0601-0631</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0671</b> | <b>0801-0831</b> | <b>0961-0991</b> | <b>1121-1151</b> |
| <b>0681-0711</b> | <b>0841-0871</b> | <b>1001-1031</b> | <b>1161-1191</b> |
| <b>0721-0751</b> | <b>0881-0911</b> | <b>1041-1071</b> | <b>1201-1231</b> |
| <b>0761-0791</b> | <b>0921-0951</b> | <b>1081-1111</b> | <b>1241-1271</b> |

|                  |                  |                  |                  |
|------------------|------------------|------------------|------------------|
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1311</b> | <b>1441-1471</b> | <b>1601-1631</b> | <b>1761-1791</b> |
| <b>1321-1351</b> | <b>1481-1511</b> | <b>1641-1671</b> | <b>1801-1831</b> |
| <b>1361-1391</b> | <b>1521-1551</b> | <b>1681-1711</b> | <b>1841-1871</b> |
| <b>1401-1431</b> | <b>1561-1591</b> | <b>1721-1751</b> | <b>1881-1911</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-1951</b> | <b>2081-2111</b> | <b>2241-2271</b> | <b>2401-2431</b> |
| <b>1961-1991</b> | <b>2121-2151</b> | <b>2281-2311</b> | <b>2441-2471</b> |
| <b>2001-2031</b> | <b>2161-2191</b> | <b>2321-2351</b> | <b>2481-2511</b> |
| <b>2041-2071</b> | <b>2201-2231</b> | <b>2361-2391</b> | <b>2521-2551</b> |

**uvmnp** - Hierarchical NPC number

**wxkqr** - Hierarchical NPC number designating the end of a range specification

**uv,wx** - Unit number

**m,k** - Module number

**np,qr** - NPC number within the module

**Note:** Only ODD NPC numbers are valid in the tables listed below. The even numbered NPC is not available for any other NPC type.

SP type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-31</b> |

**mnxyz** - NPC type

**mnxyz** *Explanation*

**SP100** Signaling Conversion

**cc** - Hexadecimal condition code

**cc** *Explanation*

**26** NPC type error

**38** Deny SP Type NPCs for Alternate Maps

**F2** Invalid NPC number specified

**A1** The parameter specified does not match with the NPC type

## **GRTH,NPC,TYPE**

### **PROVISION DIGITAL SIGNAL PROCESSING UNIT NPC**

#### **Explanation Of Command**

This command requests the provisioning of a non-FTU (facility terminating unit) type network processing circuit (NPC). There are two NPCs in a non-FTU circuit pack. Although only one network processing circuit is specified in the command, two NPCs will be provisioned; NPCs [s]abc and [s]abc+1. Provisioning of both NPCs will be reported in the output message.

For the Subrate Feature, there is only one network processing circuit per circuit pack.

The growth command results in the provisioning of all NPCs in the circuit pack on both duplicated sides. For subrate circuit packs, there is only one NPC per circuit pack.

#### **Command**

##### **Nonhierarchical**

[I.31351]

**GRTH:FRM xy,SEQ ww:NPC [s]abc,TYPE mnxyz!**

##### **Hierarchical**

[I.31351]

**GRTH:FRM xy,SEQ ww:NPC uvmnp,TYPE mnxyz!**

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.31351]

M hh:mm:ss xy,ww n[vv] GRTH NPC [s]abc TYPE mnxyz \  
COMPL

#### **Hierarchical**

---

[O.31351]

M hh:mm:ss xy,ww n[vv] GRTH NPC uvmnp TYPE mnxyz \  
COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.31351.01]

M hh:mm:ss xy,ww n[vv] GRTH NPC [s]abc TYPE mnxyz EQD DNY

[O.31351.02]

M hh:mm:ss xy,ww n[vv] GRTH NPC [s]abc TYPE mnxyz COND cc \  
DNY

#### **Hierarchical**

---

[O.31351.01]

M hh:mm:ss xy,ww n[vv] GRTH NPC uvmnp TYPE mnxyz EQD DNY

[O.31351.02]

M hh:mm:ss xy,ww n[vv] GRTH NPC uvmnp TYPE mnxyz COND cc DNY

### **Autonomous Message**

---

Not applicable.

### Explanation Of Parameters

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number.

If NPC numbers are expressed in three digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

| Unit<br>1  | Unit<br>2  | Unit<br>3  | Unit<br>4  | Unit<br>5  | Unit<br>6  |
|------------|------------|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| <b>001</b> | <b>161</b> | <b>321</b> | <b>481</b> | <b>641</b> | <b>801</b> |
| <b>021</b> | <b>181</b> | <b>341</b> | <b>501</b> | <b>661</b> | <b>821</b> |
| <b>041</b> | <b>201</b> | <b>361</b> | <b>521</b> | <b>681</b> | <b>841</b> |
| <b>061</b> | <b>221</b> | <b>381</b> | <b>541</b> | <b>701</b> | <b>861</b> |
| <b>081</b> | <b>241</b> | <b>401</b> | <b>561</b> | <b>721</b> | <b>881</b> |
| <b>101</b> | <b>261</b> | <b>421</b> | <b>581</b> | <b>741</b> | <b>901</b> |
| <b>121</b> | <b>281</b> | <b>441</b> | <b>601</b> | <b>761</b> | <b>921</b> |
| <b>141</b> | <b>301</b> | <b>461</b> | <b>621</b> | <b>781</b> | <b>941</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

| Unit<br>1   | Unit<br>2   | Unit<br>3   | Unit<br>4   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0001</b> | <b>0161</b> | <b>0321</b> | <b>0481</b> |
| <b>0021</b> | <b>0181</b> | <b>0341</b> | <b>0501</b> |
| <b>0041</b> | <b>0201</b> | <b>0361</b> | <b>0521</b> |
| <b>0061</b> | <b>0221</b> | <b>0381</b> | <b>0541</b> |
| <b>0081</b> | <b>0241</b> | <b>0401</b> | <b>0561</b> |
| <b>0101</b> | <b>0261</b> | <b>0421</b> | <b>0581</b> |
| <b>0121</b> | <b>0281</b> | <b>0441</b> | <b>0601</b> |
| <b>0141</b> | <b>0301</b> | <b>0461</b> | <b>0621</b> |

| Unit<br>5   | Unit<br>6   | Unit<br>7   | Unit<br>8   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0641</b> | <b>0801</b> | <b>0961</b> | <b>1121</b> |
| <b>0661</b> | <b>0821</b> | <b>0981</b> | <b>1141</b> |
| <b>0681</b> | <b>0841</b> | <b>1001</b> | <b>1161</b> |
| <b>0701</b> | <b>0861</b> | <b>1021</b> | <b>1181</b> |
| <b>0721</b> | <b>0881</b> | <b>1041</b> | <b>1201</b> |
| <b>0741</b> | <b>0901</b> | <b>1061</b> | <b>1221</b> |
| <b>0761</b> | <b>0921</b> | <b>1081</b> | <b>1241</b> |
| <b>0781</b> | <b>0941</b> | <b>1101</b> | <b>1261</b> |
| Unit<br>9   | Unit<br>10  | Unit<br>11  | Unit<br>12  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1281</b> | <b>1441</b> | <b>1601</b> | <b>1761</b> |
| <b>1301</b> | <b>1461</b> | <b>1621</b> | <b>1781</b> |
| <b>1321</b> | <b>1481</b> | <b>1641</b> | <b>1801</b> |
| <b>1341</b> | <b>1501</b> | <b>1661</b> | <b>1821</b> |
| <b>1361</b> | <b>1521</b> | <b>1681</b> | <b>1841</b> |
| <b>1381</b> | <b>1541</b> | <b>1701</b> | <b>1861</b> |
| <b>1401</b> | <b>1561</b> | <b>1721</b> | <b>1881</b> |
| <b>1421</b> | <b>1581</b> | <b>1741</b> | <b>1901</b> |
| Unit<br>13  | Unit<br>14  | Unit<br>15  | Unit<br>16  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1921</b> | <b>2081</b> | <b>2241</b> | <b>2401</b> |
| <b>1941</b> | <b>2101</b> | <b>2261</b> | <b>2421</b> |
| <b>1961</b> | <b>2121</b> | <b>2281</b> | <b>2441</b> |
| <b>1981</b> | <b>2141</b> | <b>2301</b> | <b>2461</b> |
| <b>2001</b> | <b>2161</b> | <b>2321</b> | <b>2481</b> |
| <b>2021</b> | <b>2181</b> | <b>2341</b> | <b>2501</b> |
| <b>2041</b> | <b>2201</b> | <b>2361</b> | <b>2521</b> |
| <b>2061</b> | <b>2221</b> | <b>2381</b> | <b>2541</b> |

**uvmnp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The valid NPC numbers are:

MB, SR, and MJ type numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

|              |            |           |
|--------------|------------|-----------|
| Unit         | Module     | NPC       |
| <b>01-16</b> | <b>1-8</b> | <b>01</b> |

**mnxyz** - NPC type

*mnxyz Explanation*

MB100 Digital Multipoint Bridge  
MJ100 Multipoint Junction Unit  
SR100 Subrate Multiplexer

**[t]def** - Nonhierarchical NPC numbers applicable only to MBxyz type NPCs.

If NPC numbers are expressed in three digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

|                |                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|----------------|
| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-002</b> | <b>161-162</b> | <b>321-322</b> | <b>481-482</b> | <b>641-642</b> | <b>801-802</b> |
| <b>021-022</b> | <b>181-182</b> | <b>341-342</b> | <b>501-502</b> | <b>661-662</b> | <b>821-822</b> |
| <b>041-042</b> | <b>201-202</b> | <b>361-362</b> | <b>521-522</b> | <b>681-682</b> | <b>841-842</b> |
| <b>061-062</b> | <b>221-222</b> | <b>381-382</b> | <b>541-542</b> | <b>701-702</b> | <b>861-862</b> |
| <b>081-082</b> | <b>241-242</b> | <b>401-402</b> | <b>561-562</b> | <b>721-722</b> | <b>881-882</b> |
| <b>101-102</b> | <b>261-262</b> | <b>421-422</b> | <b>581-582</b> | <b>741-742</b> | <b>901-902</b> |
| <b>121-122</b> | <b>281-282</b> | <b>441-442</b> | <b>601-602</b> | <b>761-762</b> | <b>921-922</b> |
| <b>141-142</b> | <b>301-302</b> | <b>461-462</b> | <b>621-622</b> | <b>781-782</b> | <b>941-942</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1 | Unit<br>2 | Unit<br>3 | Unit<br>4 |
|-----------|-----------|-----------|-----------|
| NPC       | NPC       | NPC       | NPC       |
| 0001-0002 | 0161-0162 | 0321-0322 | 0481-0482 |
| 0021-0022 | 0181-0182 | 0341-0342 | 0501-0502 |
| 0041-0042 | 0201-0202 | 0361-0362 | 0521-0522 |
| 0061-0062 | 0221-0222 | 0381-0382 | 0541-0542 |
| 0081-0082 | 0241-0242 | 0401-0402 | 0561-0562 |
| 0101-0102 | 0261-0262 | 0421-0422 | 0581-0582 |
| 0121-0122 | 0281-0282 | 0441-0442 | 0601-0602 |
| 0141-0142 | 0301-0302 | 0461-0462 | 0621-0622 |

| Unit<br>5 | Unit<br>6 | Unit<br>7 | Unit<br>8 |
|-----------|-----------|-----------|-----------|
| NPC       | NPC       | NPC       | NPC       |
| 0641-0642 | 0801-0802 | 0961-0962 | 1121-1122 |
| 0661-0662 | 0821-0822 | 0981-0982 | 1141-1142 |
| 0681-0682 | 0841-0842 | 1001-1002 | 1161-1161 |
| 0701-0702 | 0861-0862 | 1021-1022 | 1181-1182 |
| 0721-0722 | 0881-0882 | 1041-1042 | 1201-1202 |
| 0741-0742 | 0901-0902 | 1061-1062 | 1221-1222 |
| 0761-0762 | 0921-0922 | 1081-1082 | 1241-1242 |
| 0781-0782 | 0941-0942 | 1101-1102 | 1261-1262 |

| Unit<br>9 | Unit<br>10 | Unit<br>11 | Unit<br>12 |
|-----------|------------|------------|------------|
| NPC       | NPC        | NPC        | NPC        |
| 1281-1282 | 1441-1442  | 1601-1602  | 1761-1762  |
| 1301-1302 | 1461-1462  | 1621-1622  | 1781-1782  |
| 1321-1322 | 1481-1482  | 1641-1642  | 1801-1802  |
| 1341-1342 | 1501-1502  | 1661-1662  | 1821-1822  |
| 1361-1362 | 1521-1522  | 1681-1682  | 1841-1842  |
| 1381-1382 | 1541-1542  | 1701-1702  | 1861-1862  |
| 1401-1402 | 1561-1562  | 1721-1722  | 1881-1882  |
| 1421-1422 | 1581-1582  | 1741-1742  | 1901-1902  |



| Unit<br>13 | Unit<br>14 | Unit<br>15 | Unit<br>16 |
|------------|------------|------------|------------|
| NPC        | NPC        | NPC        | NPC        |
| 1921-1922  | 2081-2082  | 2241-2242  | 2401-2402  |
| 1941-1942  | 2101-2102  | 2261-2262  | 2421-2422  |
| 1961-1962  | 2121-2122  | 2281-2282  | 2441-2442  |
| 1981-1982  | 2141-2142  | 2301-2302  | 2461-2462  |
| 2001-2002  | 2161-2162  | 2321-2322  | 2481-2482  |
| 2021-2022  | 2181-2182  | 2341-2342  | 2501-2502  |
| 2041-2042  | 2201-2202  | 2361-2362  | 2521-2522  |
| 2061-2062  | 2221-2222  | 2381-2382  | 2541-2542  |

**uvmqr** - Hierarchical NPC numbers applicable only to MBxyz type NPCs. The valid NPC numbers are:

MB type NPC numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

| Unit  | Module | NPC   |
|-------|--------|-------|
| 01-16 | 1-8    | 01-02 |

**EQD** - Equipped

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 10** Unit is not equipped
- 11** UC is out of service
- 12** UC is in service but failed
- 9A** hub id not set when MJU pack grown
- F3** Maximum number of CPRs have already been grown for this unit

---

## **GRTH,NPC,TYPE,OPTS,IW,X**

---

### **PROVISION NPC TYPE DS**

#### **Explanation Of Command**

---

This SLC® 96 carrier command requests the equipage of network processing circuit (NPC) type **DSxyz**. It may also be used to request the equipage of a range of NPCs. Arguments **x**, **y**, and **z** following **DS** specify the multiframe format for the digroup, line and signaling format, and counting sequence format.

The **OPTS** keyword is used to select prestored values for facility performance parameter alarm thresholds from a secondary data base using the variables **rr** and **m**. **rr** specifies the alarm threshold to be set and **m** selects from the secondary data base one of the prestored values of the given threshold. Values of **rr** range from 01 through 10. There are four values stored for each of the ten facility performance parameters. All unspecified options will be set to the default value 0.

A special code, called the disconnect code (DCC), is transmitted by this NPC on unassigned channels. This code is specified by **pq** in the optional field **IW X'pq**. The default is the unassigned channel code with the value **X'7F**. The DCC may be assigned any 2-digit hexadecimal value.

The execution of this command may be stopped by entering **ABT**.

#### **Command**

---

#### **Nonhierarchical**

---

[I.31371]

```
GRTH:FRM xy,SEQ ww:NPC [s]abc[-[t]def],TYPE DSxyz \  
[,OPTS(rr/m [,rr/m][...])][,IW X'pq]!
```

## Hierarchical

[I.31371]

GRTH:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],TYPE DSxyz \  
[,OPTS(rr/m [,rr/m][...]))[,IW X'pq]!

## Completion Message

### Nonhierarchical

[O.31371]

M hh:mm:ss xy,ww n[vv] GRTH NPC [s]jkl TYPE DSxyz IW pq \  
4 LN MSG:

|            |      |     |     |   |       |     |      |     |       |       |      |  |       |  |
|------------|------|-----|-----|---|-------|-----|------|-----|-------|-------|------|--|-------|--|
|            | SLIP |     | BER |   | ERS   |     | SERS |     | COFA  |       | SANE |  | SAFE  |  |
| THRESHOLDS | mmm  | nnn | p   | q | rrrrr | sss | ttt  | uuu | xxxxx | zzzzz |      |  |       |  |
| OPTIONS    | e    | f   | g   | h | i     | j   | k    | l   | v     | w     |      |  | COMPL |  |

## Hierarchical

[O.31371]

M hh:mm:ss xy,ww n[vv] GRTH NPC uvjkl TYPE DSxyz IW pq \  
4 LN MSG:

|            |      |     |     |   |       |     |      |     |       |       |      |  |       |  |
|------------|------|-----|-----|---|-------|-----|------|-----|-------|-------|------|--|-------|--|
|            | SLIP |     | BER |   | ERS   |     | SERS |     | COFA  |       | SANE |  | SAFE  |  |
| THRESHOLDS | mmm  | nnn | p   | q | rrrrr | sss | ttt  | uuu | xxxxx | zzzzz |      |  |       |  |
| OPTIONS    | e    | f   | g   | h | i     | j   | k    | l   | v     | w     |      |  | COMPL |  |

## Denial Message

### Nonhierarchical

[O.31371.01]

M hh:mm:ss xy,ww n[vv] GRTH NPC [s]jkl[-[t]mno] \  
TYPE DSxyz [ ss/n][ IW pq] COND cc DNY

[O.31371.02]

M hh:mm:ss xy,ww n[vv] GRTH NPC [s]jkl[-[t]mno] \  
TYPE DSxyz EQD DNY

## Hierarchical

[O.31371.01]

M hh:mm:ss xy,ww n[vv] GRTH NPC uvjkl[-uvmno] \  
TYPE DSxyz [ ss/n][ IW pq] COND cc DNY

[O.31371.02]

M hh:mm:ss xy,ww n[vv] GRTH NPC uvjkl[-uvmno] \  
TYPE DSxyz EQD DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number the first NPC number of a range.

**[t]def** - The 3- or 4-digit nonhierarchical NPC number the last NPC number of a range.

If NPC numbers are expressed in three digits, the valid values are:

DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

**uvmnp** - Hierarchical NPC number, the first NPC number of a range.

**uvkqr** - Hierarchical NPC number, the last NPC number of a range.

**uv** - Unit number

**m, k** - Module number

**np, qr** - NPC number within the module

The allowable value are presented below:

DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

**TYPE** - Type

DS-type xyz fields

**x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>               |
|------------|----------------------------------|
| <b>0</b>   | Not assigned                     |
| <b>1</b>   | D4                               |
| <b>2</b>   | ESF - Voice                      |
| <b>3</b>   | Not assigned                     |
| <b>4</b>   | Not assigned                     |
| <b>5</b>   | Not assigned                     |
| <b>6</b>   | SLC® 96 carrier Fs               |
| <b>7</b>   | SLC 5 carrier ESF with data link |
| <b>8-9</b> | Not assigned                     |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                      |
|------------|-----------------------------------------|
| <b>0</b>   | Zero code suppression (ZCS)             |
| <b>1</b>   | No zero code suppression (NZCS)         |
| <b>2</b>   | Bipolar with 8 zero substitution (B8ZS) |
| <b>3-9</b> | Not assigned                            |

**z** - Counting sequence format

| <b>z</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | SLC 96 carrier Mode III D4 counting sequence  |
| <b>1</b>   | SLC 96 carrier Mode III D1D counting sequence |
| <b>2</b>   | SLC 96 carrier Mode I D1D counting sequence   |
| <b>3</b>   | SLC Series 5 carrier D4 counting sequence     |
| <b>4-9</b> | Not assigned                                  |

**OPTS** - Options

**rr** - Facility performance parameter number

Variable rr specifies the parameter whose alarm threshold is being selected.

**m** - Facility performance parameter threshold index (0 through 3)

Variable m is used to select threshold values previously programmed for rr. The default threshold value, the value selected by m=0, for each parameter is shown in the table below under the column heading "Default Threshold Value". Threshold values selected by m=1 through m=3 must exist, that is, must have been programmed, prior to being selected. These other thresholds can be set by using the CHG::SETOP (I.38201) command. Thresholds of all unspecified parameters will be set to the default value associated with m=0. The options field must not be given without the NPC type field.

For DE type NPCs, parameters with values rr = 1 through 8 are valid.  
For DS type NPCs, parameters with values rr = 1 through 10 are valid.  
For TE type NPCs, parameters with values rr = 1 through 8 are valid.  
For Clear-DS1 DE type NPCs, parameters with values rr = 1 through 4 are valid.  
For Clear-DS1 TE type NPCs, parameters with values rr = 1 through 2 are valid.

| rr | Parameter                             | Threshold                  | Default            |
|----|---------------------------------------|----------------------------|--------------------|
|    |                                       | Value<br>Range             | Threshold<br>Value |
| 01 | Slip major                            | 000 to 255                 | 255                |
| 02 | Slip minor                            | 000 to 255                 | 4                  |
| 03 | Bit Error Rate major                  | 1E-3* to 1E-6 <sup>†</sup> | 1E-3*              |
| 04 | Bit Error Rate minor                  | 1E-3* to 1E-6 <sup>†</sup> | 1E-6               |
| 05 | Errored Seconds <sup>‡</sup>          | 00001 to 65535             | 864                |
| 06 | Severely Errored Seconds <sup>‡</sup> | 001 to 255                 | 225                |
| 07 | Change of Frame Alignment major       | 001 to 511                 | 511                |
| 08 | Change of Frame Alignment minor       | 001 to 255                 | 17                 |
| 09 | Shelf Alarm Near End(SANE)§           | 00001 to 65535             | 00000              |
| 10 | Shelf Alarm Far End(SAFE)§            | 00001 to 65535             | 00000              |

\* 4 for clear-DS1 NPCs or DS type NPCs (default)

<sup>†</sup> 7 on DE or TE type NPCs using T1DM (x = 4) or ESF (x = 2 or 3) framing

<sup>‡</sup> Only applicable to DE or TE type NPCs using T1DM (x = 4) or ESF (x = 2 or 3) framing

§ Applicable only to DS type NPCs

**Note 1:** Major thresholds must be greater than minor thresholds.

**Note 2:** For Bit Error Rates, enter only the power of 10 (DACS assumes its sign is negative). For example, for a BER of  $10^{-3}$  (.001), enter 3.

**Note 3:** Slip major and Slip minor threshold crossing alarms may be disabled by programming threshold values of zero for the respective parameters.

**Note 3:** The SANE and SAFE parameters are not applicable to DS1yz and DS7yz type NPCs.

**Note 4:** Except for BER, major thresholds may not be equal to or less than the minor thresholds. The BER major threshold can be equal to the BER minor threshold.



**Note:** If the queried NPC can not be accessed for some reason, for example because the Facility Terminating Module is not equipped or the FTMI or Unit Controller is out of service, then the NPC's parameter count fields are printed as a string of dashes to indicate that the counts are not available. The parameter thresholds and options are still correctly output in this case.

In addition, some parameters are not applicable to all NPCs. Certain parameters may or may not be collected based on NPC type. In the cases where specific parameters do not apply to the queried NPC, the respective parameter count fields, threshold values and threshold options are all displayed as a string of dashes.

- IW** - Insertion word
- pq** - Insertion word value (hexadecimal)  
  
Variable pq is a user defined insertion word. The default value of pq is 7F. The insertion word FF is recommended for unconnected channels in the SLC® interface and CPI applications.
- [s]jkl** - The 3- or 4-digit nonhierarchical NPC number ( $[s]abc \leq [s]jkl \leq [t]def$ )
- [t]mno** - The 3- or 4-digit nonhierarchical DS TYPE NPC number denoting the end of a range ( $[s]jkl \leq [t]mno \leq [t]def$ )
- uvjkl** - Hierarchical DS TYPE NPC number ( $uvmnp \leq uvjkl \leq uvmno$ )
- uvmno** - Hierarchical DS TYPE NPC number ( $uvjkl \leq uvmno \leq uvqqr$ )
- mmm** - SLIP major alarm threshold (0 through 255)
- nnn** - SLIP minor alarm threshold (0 through 255)
- e** - SLIP major option selection (0 through 3)
- f** - SLIP minor option selection (0 through 3)
- p** - BER major alarm threshold (4 through 6)
- q** - BER minor alarm threshold (4 through 6)
- g** - BER major option selection (0 through 3)
- h** - BER minor option selection (0 through 3)
- rrrrr** - ERS threshold (1 through 65535)
- i** - ERS option selection (0 through 3)
- sss** - SERS threshold (1 through 255)
- j** - SERS option selection (0 through 3)

**ttt** - COFA major alarm threshold (1 through 511)  
**uuu** - COFA minor alarm threshold (1 through 255)  
**k** - COFA major option selection (0 through 3)  
**l** - COFA minor option selection (0 through 3)  
  
**xxxxx** - SANE threshold (0 through 65535)  
**v** - SANE option selection (0 through 3)  
  
**zzzzz** - SAFE threshold (0 through 65535)  
**w** - SAFE option selection (0 through 3)  
  
**ss/n** - First improper values of "rr/m" for which message is denied.  
  
**cc** - Hexadecimal condition code

**cc** *Explanation*

**00** No conditions  
**10** Unit is not equipped  
**11** UC is out of service  
**12** UC is in service but failed  
**13** FTMI is not equipped  
**20** Option rr/m has not been set up on 2nd database  
**21** Minor >= major for SLIP opt  
**22** Minor <= major for BER opt  
**23** Minor >= major for COFA opt  
**24** Unit type error  
**34** NPC type option xyz is unassigned  
**83** NPC type is inconsistent with FTMI type  
**84** Incompatible types of NPCs in a DDC  
**7C** Different DSxyz types are used for DGA/DGP on same DDC for Mode I  
**7F** NPC is not added  
**8A** x & z parameters on DSxyz are inconsistent  
**BE** NPC type option Y is invalid for SLC-96 NPC  
**FD** NPC range crosses unit boundary  
**1A** The facility parameter not programmable for specified x or z parameter  
**0A** Minor Slip threshold disabled before Major Slip threshold

## **GRTH,NPC,TYPE,OPTS,IW,X,INCL,AIS,INFO**

### **GROWTH ANSI NPC**

#### **Explanation Of Command**

This command provisions type DA<sub>xyz</sub> Network Processing Circuits (NPCs) in DACS II Facility Terminating Units and type TA<sub>xyz</sub> (NPCs) in DACS II DS3 Units. A single NPC or a range of NPCs may be provisioned with one input command.

This command also provisions the alert thresholds for DS1 facility performance parameters on the NPC. Default threshold values will be programmed if the optional parameter threshold selection arguments are not specified. The parameter threshold selection arguments are indices into the DACS II threshold database, which must be preconfigured by the user.

The maximum length of this input command must not exceed 208 characters. Any input command longer than 208 characters is treated as a syntax error by DACS II. Options that do not fit into this GRTH command can be specified in additional commands.

An idle code is transmitted on the NPC's unassigned DS0 channels. The idle code is specified by **pq** in the optional field **Iw X'pq** (in this application pq is called the growth insertion word). The growth insertion word may be assigned a 2-digit hexadecimal value. If **pq** is not specified, it will default to the hexadecimal value 7F if the NPC is provisioned with D4 or ESF framing, and to the hexadecimal value 18 if the NPC is provisioned with T1DM framing.

As a protection to users, the INCL keyword must be added to provision an NPC with D4 framing and an Insertion Word with bit 2 equal to zero. NPCs provisioned in the D4 format (DA1yz/TA1yz) transmit a DS1 yellow alarm by setting bit 2 to zero in all 24 DS0 channels. If the Insertion Word is unknowingly provisioned in this manner, the NPC will transmit a D4 yellow alarm signal when it is restored. The D4 yellow alarm is generated by any Insertion Word with the binary value a0cdefgh, where the letters a-h represent the eight bits of the binary word. The D4 yellow alarm is not generated by an Insertion Word with a binary value a1cdefgh.

For clear DS1 NPCs, the insertion word option is NOT available and the message will be denied if this option is entered. The alarm indication signal is transmitted in the disconnected or idle state.

Since a growth command which addresses a range of NPCs can take considerable time to complete, the ABT command is allowed with this message. If the ABT command is entered, DACS II will stop execution on the current NPC growth and will report what has been completed.

One output message is printed for each NPC requested and successfully provisioned.

Provisioning commands where the specified NPC range crosses a Unit boundary will be denied.

When a provisioning command addressing a range of NPCs is denied for successive NPCs in the range for the same reason, a summary denial message will be output, giving the range of NPC numbers denied and the reason for the denial.

When a provisioning command addressing a range of NPCs within a unit crosses a facility terminating module (FTM) boundary, if the FTM is unequipped or provisioned as a CEPT module, then the FTM will be skipped as a whole, with a summary denial message, as noted below.

- If the type field is specified, and it is inconsistent with the first FTM specified or the first FTM specified is unequipped, the entire command is denied. Otherwise, the specified type field is applied to the entire NPC range.
- If the type field is omitted, the NPC type will default to the type of the first FTM, either domestic or CEPT.

Whether or not the type field is specified, if an FTM, beyond the first one addressed, is of a different type, that entire FTM will be denied.

The execution of the normal completions, or of denials for a reason other than diagnostic failures, then resumes at the next NPC and continues until the end of the range.

A summary denial message will not be issued for denial of range NPC RESTORE commands if the reason is an NPC diagnostic failure. In this case, there is one output

message for each NPC in the range.

### **Command**

---

### **Nonhierarchical**

---

[l.31341]

```
GRTH:FRM xy,SEQ ww:NPC [s]abc[-[t]def],TYPE mnxyz[,OPTS(rr/m\  
[,rr/m][...]))[,IW X'pq[,INCL]][,AIS {INFO|MJ|MN}}[,PL {ENA|DSA}}!
```

### **Hierarchical**

---

[l.31341]

```
GRTH:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],TYPE mnxyz[,OPTS(rr/m\  
[,rr/m][...]))[,IW X'pq[,INCL]][,AIS {INFO|MJ|MN}}[,PL {ENA|DSA}}!
```

## Completion Message

### Nonhierarchical

[O.31341]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC [s]jkl TYPE mnxyz IW pq[ INCL]\
[ AIS {INFO|MJ|MN}}[ PL {ENA|DSA}} 4 LN MSG:
DAILY NE      CVP      ESP      SESP      SEFS      CSSP      UASP      CVL      ESL      SESL
THRESHOLDS    aaaaaaaa bbbbbb ccccc ddddd eeeee fffff ggggggggg hhhhh iiiii
OPTIONS       a         b         c         d         e         f         g         h         i         EOM
```

```
M hh:mm:ss xy,ww n[vv] GRTH NPC [s]jkl TYPE mnxyz IW pq[ INCL]\
[ AIS {INFO|MJ|MN}}[ PL {ENA|DSA}} 4 LN MSG:
DAILY FE      CVP      ESP      SESP      SEFS      CSSP      UASP      ESL
THRESHOLDS    jjjjjjjjj kkkkk lllll mmmmm nnnnn ooooo ppppp
OPTIONS       j         k         l         m         n         o         p         EOM
```

```
M hh:mm:ss xy,ww n[vv] GRTH NPC [s]jkl TYPE mnxyz IW pq[ INCL]\
[ AIS {INFO|MJ|MN}}[ PL {ENA|DSA}} 4 LN MSG:
15MIN NE      CVP      ESP      SESP      SEFS      CSSP      UASP      CVL      ESL      SESL
THRESHOLDS    aaaaaaa  bbb  ccc  ddd  eee  fff  gggggggg hhh  iii
OPTIONS       a         b         c         d         e         f         g         h         i         EOM
```

```
M hh:mm:ss xy,ww n[vv] GRTH NPC [s]jkl TYPE mnxyz IW pq[ INCL]\
[ AIS {INFO|MJ|MN}}[ PL {ENA|DSA}} 4 LN MSG:
15MIN FE      CVP      ESP      SESP      SEFS      CSSP      UASP      ESL
THRESHOLDS    jjjjjjj  kkk  lll  mmm  nnn  ooo  ppp
OPTIONS       j         k         l         m         n         o         p         COMPL
```

If the segment header exceeds 80 characters, the output format is:

[O.31342]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC [s]jkl TYPE mnxyz 5 LN MSG:
IW pq [INCL ][AIS {INFO|MJ|MN} ][PL {ENA|DSA}]
DAILY NE CVP ESP SESP SEFS CSSP UASP CVL ESL SESL
THRESHOLDS aaaaaaaaa bbbbbb ccccc dddd eeeee fffff ggggggggg hhhh iiiii
OPTIONS a b c d e f g h i EOM
```

```
M hh:mm:ss xy,ww n[vv] GRTH NPC [s]jkl TYPE mnxyz 5 LN MSG:
IW pq [INCL ][AIS {INFO|MJ|MN} ][PL {ENA|DSA}]
DAILY FE CVP ESP SESP SEFS CSSP UASP ESL
THRESHOLDS jjjjjjjjj kkkkk lllll mmmmm nnnnn ooooo ppppp
OPTIONS j k l m n o p EOM
```

```
M hh:mm:ss xy,ww n[vv] GRTH NPC [s]jkl TYPE mnxyz 5 LN MSG:
IW pq [INCL ][AIS {INFO|MJ|MN} ][PL {ENA|DSA}]
15MIN NE CVP ESP SESP SEFS CSSP UASP CVL ESL SESL
THRESHOLDS aaaaaaa bbb ccc ddd eee fff ggggggg hhh iii
OPTIONS a b c d e f g h i EOM
```

```
M hh:mm:ss xy,ww n[vv] GRTH NPC [s]jkl TYPE mnxyz 5 LN MSG:
IW pq [INCL ][AIS {INFO|MJ|MN} ][PL {ENA|DSA}]
15MIN FE CVP ESP SESP SEFS CSSP UASP ESL
THRESHOLDS jjjjjjj kkk lll mmm nnn ooo ppp
OPTIONS j k l m n o p COMPL
```

## Hierarchical

[O.31341]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC uvjkl TYPE mnxyz IW pq[ INCL]\
[ AIS {INFO|MJ|MN}}[ PL {ENA|DSA}} 4 LN MSG:
DAILY NE      CVP      ESP      SESP      SEFS      CSSP      UASP      CVL      ESL      SESL
THRESHOLDS    aaaaaaaa bbbbbb ccccc ddddd eeeee fffff gggggggg hhhhh iiiii
OPTIONS       a         b         c         d         e         f         g         h         i         EOM
```

```
M hh:mm:ss xy,ww n[vv] GRTH NPC uvjkl TYPE mnxyz IW pq[ INCL]\
[ AIS {INFO|MJ|MN}}[ PL {ENA|DSA}} 4 LN MSG:
DAILY FE      CVP      ESP      SESP      SEFS      CSSP      UASP      ESL
THRESHOLDS    jjjjjjjj kkkkk lllll mmmm nnnn ooooo ppppp
OPTIONS       j         k         l         m         n         o         p         EOM
```

```
M hh:mm:ss xy,ww n[vv] GRTH NPC uvjkl TYPE mnxyz IW pq[ INCL]\
[ AIS {INFO|MJ|MN}}[ PL {ENA|DSA}} 4 LN MSG:
15MIN NE      CVP      ESP      SESP      SEFS      CSSP      UASP      CVL      ESL      SESL
THRESHOLDS    aaaaaa   bbb   ccc   ddd   eee   fff   gggggggg hhh   iii
OPTIONS       a         b         c         d         e         f         g         h         i         EOM
```

```
M hh:mm:ss xy,ww n[vv] GRTH NPC uvjkl TYPE mnxyz IW pq[ INCL]\
[ AIS {INFO|MJ|MN}}[ PL {ENA|DSA}} 4 LN MSG:
15MIN FE      CVP      ESP      SESP      SEFS      CSSP      UASP      ESL
THRESHOLDS    jjjjjj   kkk   lll   mmm   nnn   ooo   ppp
OPTIONS       j         k         l         m         n         o         p         COMPL
```



If the segment header exceeds 80 characters, the output format is:

[O.31342]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC uvjkl TYPE mnxyz 5 LN MSG:
IW pq [INCL ][AIS {INFO|MJ|MN} ][PL {ENA|DSA}]
DAILY NE CVP ESP SESP SEFS CSSP UASP CVL ESL SESL
THRESHOLDS aaaaaaaa bbbbbb cccccc dddddd eeeee fffff gggggggggg hhhhh iiiii
OPTIONS a b c d e f g h i EOM
```

```
M hh:mm:ss xy,ww n[vv] GRTH NPC uvjkl TYPE mnxyz 5 LN MSG:
IW pq [INCL ][AIS {INFO|MJ|MN} ][PL {ENA|DSA}]
DAILY FE CVP ESP SESP SEFS CSSP UASP ESL
THRESHOLDS jjjjjjjjj kkkkk lllll mmmmm nnnnn ooooo ppppp
OPTIONS j k l m n o p EOM
```

```
M hh:mm:ss xy,ww n[vv] GRTH NPC uvjkl TYPE mnxyz 5 LN MSG:
IW pq [INCL ][AIS {INFO|MJ|MN} ][PL {ENA|DSA}]
15MIN NE CVP ESP SESP SEFS CSSP UASP CVL ESL SESL
THRESHOLDS aaaaaaa bbb ccc ddd eee fff gggggggg hhh iii
OPTIONS a b c d e f g h i EOM
```

```
M hh:mm:ss xy,ww n[vv] GRTH NPC uvjkl TYPE mnxyz 5 LN MSG:
IW pq [INCL ][AIS {INFO|MJ|MN} ][PL {ENA|DSA}]
15MIN FE CVP ESP SESP SEFS CSSP UASP ESL
THRESHOLDS jjjjjjj kkk lll mmm nnn ooo ppp
OPTIONS j k l m n o p COMPL
```

## Denial Message

## Nonhierarchical

[O.31341.01]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC [s]jkl[-[t]mno] TYPE mnxyz 2 LN MSG:
[ ss/n][ IW pq[ INCL]][ AIS {INFO|MJ|MN}][ PL {ENA|DSA}] COND cc DNY
```

[O.31341.02]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC [s]jkl[-[t]mno] TYPE mnxyz 2 LN MSG:
[ ss/n][ IW pq[ INCL]][ AIS {INFO|MJ|MN}][ PL {ENA|DSA}] EQD DNY
```

## Hierarchical

[O.31341.01]

M hh:mm:ss xy,ww n[vv] GRTH NPC uvjkl[-uvmno] TYPE mnxyz 2 LN MSG:  
[ ss/n][ IW pq[ INCL]][ AIS {INFO|MJ|MN}][ PL {ENA|DSA}] COND cc DNY

[O.31341.02]

M hh:mm:ss xy,ww n[vv] GRTH NPC uvjkl[-uvmno] TYPE mnxyz 2 LN MSG:  
[ ss/n][ IW pq[ INCL]][ AIS {INFO|MJ|MN}][ PL {ENA|DSA}] EQD DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number, denoting the beginning of a range specification

**[t]def** - The 3- or 4-digit nonhierarchical NPC number, denoting the end of a range specification

The valid numbers are:

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmpnp** - Hierarchical NPC number

**uvkqr** - Specific Hierarchical NPC number

**uv** - Unit number

**m, k** - Module number

**np, qr** - NPC number within the module

The valid numbers are:

DA type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**TYPE** - Type

**mnxyz** - NPC-type identifier

*mn*      *Explanation*

DA      FTU DS1 ANSI NPC type

TA      DS3U DS1 ANSI NPC type

If the NPC type field is omitted in the input command, the NPC will default to a non-ANSI DE100 NPC type in an FTU and a non-ANSI TE100 NPC type in a DS3U.

DA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                        |
|------------|-----------------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                               |
| <b>1*</b>  | NZCS - No zero code suppression                           |
| <b>2*</b>  | B8ZS - Bipolar with 8 zero substitution                   |
| <b>3</b>   | Not assigned                                              |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling             |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling         |
| <b>6</b>   | B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling |
| <b>7-9</b> | Not assigned                                              |

\* Only options 1 and 2 are applicable to DA-type clear-DS1 NPC.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering                |
| <b>1</b>   | D2 channel bank channel numbering                |
| <b>2</b>   | D1D channel bank channel numbering               |
| <b>3-8</b> | Not assigned                                     |
| <b>9</b>   | Unchannelized 193-bit Clear DS1 Cross-connection |

DA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a DA NPC with both a valid framing format (D4, ESF, T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the DA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II FTU, the NPC must be provisioned as NPC type **DE9y9**.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the DA NPC type. If ZBTSI is desired on an NPC in a DACS II FTU, the NPC must be provisioned as a DE NPC type with its **y** option selecting ZBTSI (**DEx3z**).

#### TA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                |
|------------|---------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                       |
| <b>1*</b>  | NZCS - No zero code suppression                   |
| <b>2</b>   | Not assigned                                      |
| <b>3</b>   | Not assigned                                      |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling     |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling |
| <b>6-9</b> | Not assigned                                      |

\* Only option 1 is applicable to TA-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the **y** field if the **x** field is 4 (DDST framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering                |
| <b>1</b>   | D2 channel bank channel numbering                |
| <b>2</b>   | D1D channel bank channel numbering               |
| <b>3-8</b> | Not assigned                                     |
| <b>9</b>   | Unchannelized 193-bit Clear DS1 Cross-connection |

TA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a TA NPC with both a valid framing format (D4,ESF,T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the TA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as NPC type TE919.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the TA NPC type. If ZBTSI is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as a TE NPC type with its **y** option selecting ZBTSI (**TE<sub>x</sub>3<sub>z</sub>**).

**OPTS** - Options

**rr** - Facility performance parameter number

Variable rr specifies the parameter whose alarm threshold is being selected

**m** - Facility performance parameter threshold index (0 through 3)

Variable m is used to select threshold values previously programmed for rr. The default threshold value, the value selected by m=0, for each parameter is shown in the table below under the column heading "Default Threshold Value". Threshold values selected by m=1 through m=3 must exist; that is, must have been programmed prior to being selected. The non-default thresholds can be set by using the CHG::SETOP (I.38201) command. Thresholds of all unspecified parameters will be set to the default value associated with m=0. The options field must not be given without the NPC type field.

Clear-DS1 ANSI NPCs (DA<sub>x</sub>y9/TA<sub>x</sub>y9) provide the same set of path and line performance monitoring parameters that are provided by channelized DS1 ANSI NPC types. ANSI NPCs in DS3 Units (TA<sub>x</sub>yz) do not provide near-end DS1 line performance monitoring parameters.

For Channelized and Clear-DS1 DA type NPCs with ESF framing, all of the following Near-end and Far-end parameters are valid.

For Channelized and Clear-DS1 DA type NPCs with D4 or T1DM framing, all of the following Near-end parameters are valid, but the only valid Far-end parameter is Unavailable Seconds (rr = 55,71).

For Channelized and Clear-DS1 TA type NPCs with ESF framing, all of the following Near-end Path parameters are valid, but the Near-End Line parameters (rr = 47-49, 63-65) are invalid. All of the following Far-end parameters are valid.

For Channelized and Clear-DS1 TA type NPCs with D4 or T1DM framing, the following Near-end Path parameters are valid, but the Near-End Line parameters (rr = 47-49, 63-65) are invalid. The only valid Far-end parameter is Unavailable Seconds (rr = 55,71).

| rr | Parameter                                           | Threshold Value Range  | Default Threshold Value |
|----|-----------------------------------------------------|------------------------|-------------------------|
| 41 | Daily Near-end Path Coding Violations               | 000000000 to 134217727 | 132960 <sup>†</sup>     |
| 42 | Daily Near-end Path Errored Seconds                 | 00000 to 86400         | 648                     |
| 43 | Daily Near-end Path Severely Errored Seconds        | 00000 to 86400         | 100                     |
| 44 | Daily Near-end Severely Errored Framing Seconds     | 00000 to 86400         | 17                      |
| 45 | Daily Near-end Controlled Slip Seconds              | 00000 to 86400         | 4                       |
| 46 | Daily Near-end Unavailable Seconds                  | 00000 to 86400         | 10                      |
| 47 | Daily Near-end Line Coding Violations               | 000000000 to 134217727 | 133400                  |
| 48 | Daily Near-end Line Errored Seconds                 | 00000 to 86400         | 648                     |
| 49 | Daily Near-end Line Severely Errored Seconds        | 00000 to 86400         | 100                     |
| 50 | Daily Far-end Path Coding Violations                | 000000000 to 134217727 | 132960 <sup>†</sup>     |
| 51 | Daily Far-end Path Errored Seconds                  | 00000 to 86400         | 648                     |
| 52 | Daily Far-end Path Severely Errored Seconds         | 00000 to 86400         | 100                     |
| 53 | Daily Far-end Severely Errored Framing Seconds      | 00000 to 86400         | 17                      |
| 54 | Daily Far-end Controlled Slip Seconds               | 00000 to 86400         | 4                       |
| 55 | Daily Far-end Unavailable Seconds                   | 00000 to 86400         | 10                      |
| 56 | Daily Far-end Line Errored Seconds                  | 00000 to 86400         | 648                     |
| 57 | 15-Minute Near-end Path Coding Violations           | 0000000 to 2097151     | 13296 <sup>†</sup>      |
| 58 | 15-Minute Near-end Path Errored Seconds             | 000 to 900             | 65                      |
| 59 | 15-Minute Near-end Path Severely Errored Seconds    | 000 to 900             | 10                      |
| 60 | 15-Minute Near-end Severely Errored Framing Seconds | 000 to 900             | 2                       |
| 61 | 15-Minute Near-end Controlled Slip Seconds          | 000 to 900             | 1                       |
| 62 | 15-Minute Near-end Unavailable Seconds              | 000 to 900             | 10                      |
| 63 | 15-Minute Near-end Line Coding Violations           | 0000000 to 2097151     | 13340                   |
| 64 | 15-Minute Near-end Line Errored Seconds             | 000 to 900             | 65                      |
| 65 | 15-Minute Near-end Line Severely Errored Seconds    | 000 to 900             | 10                      |
| 66 | 15-Minute Far-end Path Coding Violations            | 0000000 to 2097151     | 13296 <sup>†</sup>      |
| 67 | 15-Minute Far-end Path Errored Seconds              | 000 to 900             | 65                      |
| 68 | 15-Minute Far-end Path Severely Errored Seconds     | 000 to 900             | 10                      |



|    |                                                    |            |    |
|----|----------------------------------------------------|------------|----|
| 69 | 15-Minute Far-end Severely Errored Framing Seconds | 000 to 900 | 2  |
| 70 | 15-Minute Far-end Controlled Slip Seconds          | 000 to 900 | 1  |
| 71 | 15-Minute Far-end Unavailable Seconds              | 000 to 900 | 10 |
| 72 | 15-Minute Far-end Line Errored Seconds             | 000 to 900 | 65 |

† The value shown applies to ESF framing and is a count of CRC errors. When the DS1 has D4 or T1DM framing, framing errors are counted and the default Daily value is 691.

‡ The value shown applies to ESF framing and is a count of CRC errors. When the DS1 has D4 or T1DM framing, framing errors are counted and the default 15-Minute value is 72.

**Note:** If the queried NPC can not be accessed for some reason, for example because the Facility Terminating Module is not equipped or the FTMI or Unit Controller is out of service, then the NPC's parameter count fields are printed as a string of dashes to indicate that the counts are not available. The parameter thresholds and options will still be correctly output.

In addition, certain parameters do not apply to ANSI NPCs depending on whether the NPC is equipped in a Facility Terminating Unit (DA type NPCs) or a DS3 Unit (TA type NPCs) and whether the NPC is using ESF framing or not. In the cases where specific parameters do not apply to the queried NPC, the respective parameter count fields, threshold values and threshold options are all displayed as a string of dashes.

**IW** - Insertion word

**pq** - Hexadecimal value of the growth insertion word (GIW). Specifies the insertion word in the transmit direction on unassigned channels.

An eight-bit code, called the growth insertion word, is transmitted by this NPC on unassigned DS0 channels. This code is specified by the optional keyword IW and its argument pq. This code was previously called the Disconnect Code (DCC), but that name is properly reserved for the cross-connect insertion word, which is transmitted when the disconnect message with the DCC option is used.

Although any 2-digit hexadecimal code may be used, the default GIWs are:

| <i>pq</i> | <i>Explanation</i>                                                                                                                                                                                                               |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7F        | Unassigned Channel Code (UAC), the default value for DA/TA type NPCs provisioned with D4 or ESF framing.                                                                                                                         |
| 18        | Unassigned Multiplex Code (UMC), the default value for DA/TA type NPCs provisioned with T1DM framing. This value should only be provisioned with T1DM framing (DA4yz or TA4yz), so the growth command enforces this restriction. |

For Clear-DS1 NPCs, the insertion word option is **NOT** available and the message will be denied if this option is entered.

The alarm indication signal (AIS) is transmitted in the disconnect or idle state.

**INCL** - Inclusive

As a protection to users, this keyword must be added to provision an NPC with D4 framing and an Insertion Word with bit 2 equal to zero. NPCs grown in the D4 format (DA1yz/TA1yz) transmit a DS1 yellow alarm by setting bit 2 to zero in all 24 DS0 channels. If the Insertion Word "pq" is unknowingly provisioned in this manner, the NPC will transmit a D4 yellow alarm signal when it is restored. The D4 yellow alarm is generated by any Insertion Word with the binary value a0cdefgh, where the letters a-h define the eight bits of the binary word. The D4 yellow alarm is not generated by an Insertion Word with a binary value a1cdefgh.

**AIS** - Alarm indication signal

**INFO** - Information

Information message (not an alarm). This is the default option.

**MJ** - Major

|                 |                                                                                                                                                                                                         |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>MN</b>       | - Minor                                                                                                                                                                                                 |
| <b>PL</b>       | - Payload loopback                                                                                                                                                                                      |
| <b>ENA</b>      | - Enabled<br><br>Payload loopback commands received from far-end equipment on the ESF data link are recognized and performed by the ANSI NPC. This is the default option.                               |
| <b>DSA</b>      | - Disabled<br><br>Payload loopback commands received from far-end equipment on the ESF data link are ignored by the ANSI NPC. This prevents customer equipment from controlling network configurations. |
| <b>CVP</b>      | - Path Coding Violations                                                                                                                                                                                |
| <b>ESP</b>      | - Path Errored Seconds                                                                                                                                                                                  |
| <b>SESP</b>     | - Path Severely Errored Seconds                                                                                                                                                                         |
| <b>SEFS</b>     | - Severely Errored Framing Seconds                                                                                                                                                                      |
| <b>CSSP</b>     | - Path Controlled Slip Seconds                                                                                                                                                                          |
| <b>UASP</b>     | - Path Unavailable Seconds                                                                                                                                                                              |
| <b>CVL</b>      | - Line Coding Violations                                                                                                                                                                                |
| <b>ESL</b>      | - Line Errored Seconds                                                                                                                                                                                  |
| <b>SESL</b>     | - Line Severely Errored Seconds                                                                                                                                                                         |
| <b>ss/n</b>     | - First improper value of "rr/m" for which the message is denied.                                                                                                                                       |
| <b>aaaaaaaa</b> | - Daily near-end path coding violation threshold, (000000000 through 134217727)                                                                                                                         |
| <b>a</b>        | - Daily near-end path coding violation threshold selection, (0 through 3)                                                                                                                               |
| <b>bbbbbb</b>   | - Daily near-end path errored second threshold, (00000 through 86400)                                                                                                                                   |
| <b>b</b>        | - Daily near-end path errored second threshold selection, (0 through 3)                                                                                                                                 |
| <b>cccccc</b>   | - Daily near-end path severely errored second threshold, (00000 through 86400)                                                                                                                          |
| <b>c</b>        | - Daily near-end path severely errored second threshold selection, (0 through 3)                                                                                                                        |

|                 |                                                                                                                |
|-----------------|----------------------------------------------------------------------------------------------------------------|
| <b>dddd</b>     | - Daily near-end severely errored framing second threshold,<br>(00000 through 86400)                           |
| <b>d</b>        | - Daily near-end severely errored framing second threshold selection,<br>(0 through 3)                         |
| <b>eeee</b>     | - Daily near-end path controlled slip second threshold, (00000 through<br>86400)                               |
| <b>e</b>        | - Daily near-end path controlled slip second threshold selection,<br>(0 through 3)                             |
| <b>ffff</b>     | - Daily near-end path unavailable second threshold, (00000 through<br>86400)                                   |
| <b>f</b>        | - Daily near-end path unavailable second threshold selection,<br>(0 through 3)                                 |
| <b>gggggggg</b> | - Daily near-end line coding violation threshold,<br>(000000000 through 134217727, or ----- if not applicable) |
| <b>g</b>        | - Daily near-end line coding violation threshold selection,<br>(0 through 3)                                   |
| <b>hhhh</b>     | - Daily near-end line errored second threshold,<br>(00000 through 86400, or ----- if not applicable)           |
| <b>h</b>        | - Daily near-end line errored second threshold selection,<br>(0 through 3)                                     |
| <b>iiii</b>     | - Daily near-end line severely errored second threshold,<br>(00000 through 86400, or ----- if not applicable)  |
| <b>i</b>        | - Daily near-end line severely errored second threshold selection,<br>(0 through 3)                            |
| <b>jjjjjjjj</b> | - Daily far-end path coding violation threshold,<br>(000000000 through 134217727, or ----- if not applicable)  |
| <b>j</b>        | - Daily far-end path coding violation threshold selection,<br>(0 through 3)                                    |
| <b>kkkk</b>     | - Daily far-end path errored second threshold,<br>(00000 through 86400, or ----- if not applicable)            |
| <b>k</b>        | - Daily far-end path errored second threshold selection, (0 through 3)                                         |

|                           |                                                                                                                 |
|---------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>l l l l l</b>          | - Daily far-end path severely errored second threshold,<br>(00000 through 86400, or ----- if not applicable)    |
| <b>l</b>                  | - Daily far-end path severely errored second threshold selection,<br>(0 through 3)                              |
| <b>m m m m m</b>          | - Daily far-end severely errored framing second threshold,<br>(00000 through 86400, or ----- if not applicable) |
| <b>m</b>                  | - Daily far-end severely errored framing second threshold selection,<br>(0 through 3)                           |
| <b>n n n n n</b>          | - Daily far-end path controlled slip second threshold,<br>(00000 through 86400, or ----- if not applicable)     |
| <b>n</b>                  | - Daily far-end path controlled slip second threshold selection,<br>(0 through 3)                               |
| <b>o o o o o</b>          | - Daily far-end path unavailable second threshold, (00000 through 86400)                                        |
| <b>o</b>                  | - Daily far-end path unavailable second threshold selection,<br>(0 through 3)                                   |
| <b>p p p p p</b>          | - Daily far-end line errored second threshold,<br>(00000 through 86400, or ----- if not applicable)             |
| <b>p</b>                  | - Daily far-end line errored second threshold selection, (0 through 3)                                          |
| <u><b>a a a a a a</b></u> | - 15-Minute near-end path coding violation threshold,<br>(0000000 through 2097151)                              |
| <b>a</b>                  | - 15-Minute near-end path coding violation threshold selection,<br>(0 through 3)                                |
| <b>b b b</b>              | - 15-Minute near-end path errored second threshold,<br>(000 through 900)                                        |
| <b>b</b>                  | - 15-Minute near-end path errored second threshold selection,<br>(0 through 3)                                  |
| <b>c c c</b>              | - 15-Minute near-end path severely errored second threshold,<br>(000 through 900)                               |
| <b>c</b>                  | - 15-Minute near-end path severely errored second threshold selection,<br>(0 through 3)                         |

---

|                          |                                                                                                                |
|--------------------------|----------------------------------------------------------------------------------------------------------------|
| <b>ddd</b>               | - 15-Minute near-end severely errored framing second threshold,<br>(000 through 900)                           |
| <b>d</b>                 | - 15-Minute near-end severely errored framing second threshold<br>selection, (0 through 3)                     |
| <b>eee</b>               | - 15-Minute near-end path controlled slip second threshold,<br>(000 through 900)                               |
| <b>e</b>                 | - 15-Minute near-end path controlled slip second threshold selection,<br>(0 through 3)                         |
| <b>fff</b>               | - 15-Minute near-end path unavailable second threshold,<br>(000 through 900)                                   |
| <b>f</b>                 | - 15-Minute near-end path unavailable second threshold selection,<br>(0 through 3)                             |
| <del>g g g g g g g</del> | - 15-Minute near-end line coding violation threshold,<br>(0000000 through 2097151, or ----- if not applicable) |
| <b>g</b>                 | - 15-Minute near-end line coding violation threshold selection,<br>(0 through 3)                               |
| <b>hhh</b>               | - 15-Minute near-end line errored second threshold,<br>(000 through 900, or --- if not applicable)             |
| <b>h</b>                 | - 15-Minute near-end line errored second threshold selection,<br>(0 through 3)                                 |
| <b>iii</b>               | - 15-Minute near-end line severely errored second threshold,<br>(000 through 900, or --- if not applicable)    |
| <b>i</b>                 | - 15-Minute near-end line severely errored second threshold selection,<br>(0 through 3)                        |
| <del>j j j j j j j</del> | - 15-Minute far-end path coding violation threshold,<br>(0000000 through 2097151, or ----- if not applicable)  |
| <b>j</b>                 | - 15-Minute far-end path coding violation threshold selection,<br>(0 through 3)                                |
| <b>kkk</b>               | - 15-Minute far-end path errored second threshold,<br>(000 through 900, or --- if not applicable)              |
| <b>k</b>                 | - 15-Minute far-end path errored second threshold selection,<br>(0 through 3)                                  |

|            |                                                                                                               |
|------------|---------------------------------------------------------------------------------------------------------------|
| <b>lll</b> | - 15-Minute far-end path severely errored second threshold,<br>(000 through 900, or --- if not applicable)    |
| <b>l</b>   | - 15-Minute far-end path severely errored second threshold selection,<br>(0 through 3)                        |
| <b>mmm</b> | - 15-Minute far-end severely errored framing second threshold,<br>(000 through 900, or --- if not applicable) |
| <b>m</b>   | - 15-Minute far-end severely errored framing second threshold selection,<br>(0 through 3)                     |
| <b>nnn</b> | - 15-Minute far-end path controlled slip second threshold,<br>(000 through 900, or --- if not applicable)     |
| <b>n</b>   | - 15-Minute far-end path controlled slip second threshold selection,<br>(0 through 3)                         |
| <b>ooo</b> | - 15-Minute far-end path unavailable second threshold,<br>(000 through 900)                                   |
| <b>o</b>   | - 15-Minute far-end path unavailable second threshold selection,<br>(0 through 3)                             |
| <b>ppp</b> | - 15-Minute far-end line errored second threshold,<br>(000 through 900, or --- if not applicable)             |
| <b>p</b>   | - 15-Minute far-end line errored second threshold selection,<br>(0 through 3)                                 |

**Note:** A threshold of zero for any parameter inhibits threshold crossing monitoring for that parameter.

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                                        |
|-----------|--------------------------------------------------------|
| <b>00</b> | No conditions                                          |
| <b>10</b> | Unit is not equipped                                   |
| <b>11</b> | UC is out of service                                   |
| <b>12</b> | UC is in service but failed                            |
| <b>13</b> | FTMI is not equipped                                   |
| <b>20</b> | Option rr/m has not been set up on 2nd database        |
| <b>29</b> | IW is UMUX (18) but NPC not type DE4yz                 |
| <b>2A</b> | DMI combined with T1DM                                 |
| <b>34</b> | NPC type option xyz is unassigned                      |
| <b>83</b> | NPC type is inconsistent with FTMI type                |
| <b>84</b> | Incompatible types of NPCs in a DDC                    |
| <b>25</b> | Invalid FPI value                                      |
| <b>4E</b> | IW option is not allowed for new type of Clear-DS1 NPC |

**cc**    *Explanation*

- F1**    Parameter only valid with PA, PB, or PC type NPCs
- FC**    ZBTSl option is only valid with the ESF mode
- FD**    NPC range crosses unit boundary
- A5**    AIS keyword incompatible with NPC type
- 03**    This NPC type does not allow unframed Clear-DS1
- 04**    This NPC type does not allow Payload
- 07**    Mismatch between MXR and NPC types
- 35**    Invalid use of INCL keyword
- 36**    INCL keyword needed when restricted Insertion Word specified
- E5**    Invalid combination of "x" and "z" values
- E7**    Invalid combination of "x" and "y" values



## **GRTH,NPC,TYPE,OPTS,IW,X,INCL,AIS,INFO**

### **GROWTH NPC**

#### **Explanation Of Command**

This message requests the equipage of the facility terminating unit network processing circuit, type DExyz/TExyz. It may also be used to request the equipage of a range of NPCs.

The optional alarm threshold arguments are indices used to select prestored values for facility performance parameter alarm thresholds from a secondary data base.

A special code, called the idle code, is transmitted by this NPC on unassigned channels. The idle code is specified by pq in the optional field **IW X'pq** (generally called the growth insertion word) or it defaults to the hexadecimal value 7F (unassigned channel code) for DE type NPCs. The growth insertion word may be assigned any 2-digit hexadecimal value.

As a protection to users, the INCL keyword must be added to provision an NPC with D4 framing and an Insertion Word with bit 2 equal to zero. NPCs grown in the D4 format (DA1yz/TA1yz) transmit a DS1 yellow alarm by setting bit 2 to zero in all 24 DS0 channels. If the Insertion Word is unknowingly provisioned in this manner, the NPC will transmit a D4 yellow alarm signal when it is restored. The D4 yellow alarm is generated by any Insertion Word with the binary value a0cdefgh, where the letters a-h represent the eight bits of the binary word. The D4 yellow alarm is not generated by an Insertion Word with a binary value a1cdefgh.

For clear DS1 NPCs, the insertion word option is NOT available and the message will be denied if this option is entered. The alarm indication signal is transmitted in the disconnect or idle state.

Since range provisioning commands could take considerable time to complete, the ABT command is allowed with this message. If the ABT command is entered, DACS II will quit on execution of the current NPC growth and will report what has been finished.

One output message is printed for each NPC requested and successfully provisioned.

Provisioning commands where the specified NPC range crosses a Unit boundary will be denied.

When a provisioning command addressing a range of NPCs is denied for successive NPCs in the range for the same reason, a summary denial message will be output, giving the range of NPC numbers denied and the reason for the denial.

When a provisioning command addressing a range of NPCs within a unit crosses a facility terminating module (FTM) boundary, if the FTM is unequipped or provisioned as a CEPT module, then the FTM will be skipped as a whole, with a summary denial message, as noted below.

- If the type field is specified, and it is inconsistent with the first FTM specified or the first FTM specified is unequipped, the entire command is denied. Otherwise, the specified type field is applied to the entire NPC range.
- If the type field is omitted, the NPC type will default to the type of the first FTM, either domestic or CEPT.

Whether or not the type field is specified, if an FTM, beyond the first one addressed, is of a different type, that entire FTM will be denied.

The execution of the normal completions, or of denials for a reason other than diagnostic failures, then resumes at the next NPC and continues until the end of the range.

A summary denial message will not be issued for denial of range NPC RESTORE commands if the reason is an NPC diagnostic failure. In this case, there is one output message for each NPC in the range.

## Command

---

### Nonhierarchical

---

[I.31352]

```
GRTH:FRM xy,SEQ ww:NPC [s]abc[-[t]def][,TYPE mnxyz]\  
[,OPTS(rr/m[,rr/m][,...])][,IW X'pq[,INCL]][,AIS {INFO|MJ|MN}]!
```

### Hierarchical

---

[I.31352]

```
GRTH:FRM xy,SEQ ww:NPC uvmnp[-uvkqr][,TYPE mnxyz]\  
[,OPTS(rr/m[,rr/m][,...])][,IW X'pq[,INCL]][,AIS {INFO|MJ|MN}]!
```

## Completion Message

### Nonhierarchical

[O.31352]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC [s]jkl TYPE mnxyz IW pq[ INCL]\
[ AIS {INFO|MJ|MN}] 4 LN MSG:
          SLIP          BER          ERS          SERS          \
COFA
THRESHOLDS mmm nnn p q          rrrrr          sss          \
ttt uuu
OPTIONS e f g h i j          \
k l COMPL
```

### Hierarchical

[O.31352]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC uvjkl TYPE mnxyz IW pq[ INCL]\
[ AIS {INFO|MJ|MN}] 4 LN MSG:
          SLIP          BER          ERS          SERS          \
COFA
THRESHOLDS mmm nnn p q          rrrrr          sss          \
ttt uuu
OPTIONS e f g h i j          \
k l COMPL
```

## Denial Message

### Nonhierarchical

[O.31352.01]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC [s]jkl[-[t]mno][ mnxyz]\
[ rr/m][ IW pq[ INCL]][ AIS {INFO|MJ|MN}] COND cc DNY
```

If the output message requires more than 80 characters:

```
M hh:mm:ss xy,ww n[vv] GRTH NPC [s]jkl[-[t]mno][ mnxyz] \
2 LN MSG:
[rr/m ][IW pq [INCL ]][AIS {INFO|MJ|MN} ]COND cc DNY
```

[O.31352.02]

M hh:mm:ss xy,ww n[vv] GRTH NPC [s]jkl[-[t]mno][ mnxyz]\  
[ rr/m][ IW pq[ INCL]][ AIS {INFO|MJ|MN}] EQD DNY

## Hierarchical

[O.31352.01]

M hh:mm:ss xy,ww n[vv] GRTH NPC uvjkl[-uvmno][ mnxyz][ rr/m]\  
[ IW pq[ INCL]][ AIS {INFO|MJ|MN}] COND cc DNY

If the output message requires more than 80 characters:

M hh:mm:ss xy,ww n[vv] GRTH NPC uvjkl[-uvmno][ mnxyz] \  
2 LN MSG:  
[rr/m ][IW pq [INCL ]][AIS {INFO|MJ|MN} ]COND cc DNY

[O.31352.02]

M hh:mm:ss xy,ww n[vv] GRTH NPC uvjkl[-uvmno][ mnxyz][ rr/m]\  
[ IW pq[ INCL]][ AIS {INFO|MJ|MN}] EQD DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

- [s]abc** - The 3- or 4-digit nonhierarchical NPC number, denoting the beginning of a range specification
- [t]def** - The 3- or 4-digit nonhierarchical NPC number, denoting the end of a range specification

If NPC numbers are expressed in three digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number  
**uvkqr** - Specific Hierarchical NPC number

**uv** - Unit number  
**m, k** - Module number  
**np, qr** - NPC number within the module

The valid numbers are:

DE type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**TYPE** - Type

If the NPC type field is omitted, the NPC type will be set to the default type.

**mnxyz** - NPC-type identifier

| <i>mn</i>  | <i>Type</i>                         |
|------------|-------------------------------------|
| DE         | FTU DS1 NPC; default type is DE100  |
| TE         | DS3U DS1 NPC; default type is TE100 |
| <b>xyz</b> | - Format specification              |

DE-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | Not assigned                                     |
| <b>1</b>   | D4                                               |
| <b>2</b>   | ESF - Voice                                      |
| <b>3</b>   | ESF - Data                                       |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24)    |
| <b>5-7</b> | Not assigned                                     |
| <b>8</b>   | Ericsson Cellular format                         |
| <b>9</b>   | No framing format, transparent (TRSP), clear-DS1 |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                        |
|------------|-----------------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                               |
| <b>1*</b>  | NZCS - No zero code suppression                           |
| <b>2*</b>  | B8ZS - Bipolar with 8 zero substitution                   |
| <b>3†</b>  | ZBTSI - Zero-bit time-slot interchanger                   |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling             |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling         |
| <b>6</b>   | B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling |
| <b>7-9</b> | Not assigned                                              |

\* Only options 1 and 2 are applicable to DE-type clear-DS1 NPC.

† Only valid with ESF (x = 2 or 3)

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                     |
|------------|----------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering      |
| <b>1</b>   | D2 channel bank channel numbering      |
| <b>2</b>   | D1D channel bank channel numbering     |
| <b>3-8</b> | Not assigned                           |
| <b>9</b>   | No channel numbering format, clear-DS1 |

TE-type xyz fields

**x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | Not assigned                                     |
| <b>1</b>   | D4                                               |
| <b>2</b>   | ESF - Voice                                      |
| <b>3</b>   | ESF - Data                                       |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24)    |
| <b>5-7</b> | Not assigned                                     |
| <b>8</b>   | Ericsson Cellular format                         |
| <b>9</b>   | No framing format, transparent (TRSP), clear-DS1 |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                |
|------------|---------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                       |
| <b>1*</b>  | NZCS - No zero code suppression                   |
| <b>2</b>   | Not assigned                                      |
| <b>3</b>   | Not assigned                                      |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling     |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling |
| <b>6-9</b> | Not assigned                                      |

\* Only option 1 is applicable to TE-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).



**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                     |
|------------|----------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering      |
| <b>1</b>   | D2 channel bank channel numbering      |
| <b>2</b>   | D1D channel bank channel numbering     |
| <b>3-8</b> | Not assigned                           |
| <b>9</b>   | No channel numbering format, clear-DS1 |

**OPTS** - Options

**rr** - Facility performance parameter number

Variable rr specifies the parameter whose alarm threshold is being selected

**m** - Facility performance parameter threshold index (0 through 3)

Variable m is used to select threshold values previously programmed for rr. The default threshold value, the value selected by m=0, for each parameter is shown in the table below under the column heading "Default Threshold Value". Threshold values selected by m=1 through m=3 must exist; that is, must have been programmed prior to being selected. These other thresholds can be set by using the CHG::SETOP (I.38201) command. Thresholds of all unspecified parameters will be set to the default value associated with m=0. The options field must not be given without the NPC type field.

Clear-DS1 FTU NPCs have a limited number of parameters for performance monitoring, 01 through 04 only. Clear-DS1 DS3U NPCs have only parameters 01 and 02.

For DE type NPCs, parameters with values rr = 1 through 8 are valid.  
For TE type NPCs, parameters with values rr = 1 through 8 are valid.  
For Clear-DS1 DE type NPCs, parameters with values rr = 1 through 4 are valid.  
For Clear-DS1 TE type NPCs, parameters with values rr = 1 through 2 are valid.

| <b>rr</b> | Parameter                    | Threshold<br>Value<br>Range | Default<br>Threshold<br>Value |
|-----------|------------------------------|-----------------------------|-------------------------------|
| <b>01</b> | Slip major                   | 000 to 255                  | 255                           |
| <b>02</b> | Slip minor                   | 000 to 255                  | 4                             |
| <b>03</b> | Bit Error Rate major         | $10^{-3*}$ to $10^{-6†}$    | $10^{-3*}$                    |
| <b>04</b> | Bit Error Rate minor         | $10^{-3*}$ to $10^{-6†}$    | $10^{-6}$                     |
| <b>05</b> | Errored Seconds <sup>‡</sup> | 00001 to 65535              | 864                           |

|    |                                       |            |     |
|----|---------------------------------------|------------|-----|
| 06 | Severely Errored Seconds <sup>‡</sup> | 001 to 255 | 225 |
| 07 | Change of Frame Alignment major       | 001 to 511 | 511 |
| 08 | Change of Frame Alignment minor       | 001 to 255 | 17  |

\* 4 for clear-DS1 NPCs or DS type NPCs

<sup>†</sup> 7 on DE or TE type NPCs using T1DM (x = 4) or ESF (x = 2 or 3) framing

<sup>‡</sup> Only applicable to DE or TE type NPCs using T1DM (x = 4) or ESF (x = 2 or 3) framing

**Note 1:** Major thresholds must be greater than minor thresholds.

**Note 2:** For Bit Error Rates, enter only the power of 10 (DACS assumes its sign is negative). For example, for a BER of  $10^{-3}$  (.001), enter 3.

**Note 3:** Slip major and Slip minor threshold crossing alarms may be disabled by programming threshold values of zero for the respective parameters.

1E-4 for TG80B circuit pack operates as clear-DS1 FTU NPC, the BER is calculated from BPV rate; otherwise, parameter rr can only have values 01 and 02 for clear-DS1 NPCs

**Note:** If the queried NPC can not be accessed for some reason, for example because the Facility Terminating Module is not equipped or the FTMI or Unit Controller is out of service, then the NPC's parameter count fields are printed as a string of dashes to indicate that the counts are not available. The parameter thresholds and options are still correctly output in this case.

In addition, some parameters are not applicable to all NPCs. Certain parameters may or may not be collected based on NPC type, whether the NPC is equipped in a Facility Terminating Unit (DE type NPC) or a DS3 Unit (TE type NPC) and whether the NPC carries a Clear or Channelized facility.

In the cases where specific parameters do not apply to the queried NPC, the respective parameter count fields, threshold values and threshold options are all displayed as a string of dashes.

**IW** - Insertion word

**pq** - Hexadecimal value of the growth insertion word (GIW). Specifies the insertion word in the transmit direction on unassigned channels.

An eight-bit code, called the growth insertion word, is transmitted by this NPC on unassigned DS0 channels. This code is specified by the optional keyword IW and its argument pq. This code was previously called the Disconnect Code (DCC), but that name is properly reserved for the cross-connect insertion word, which is transmitted when the disconnect message with the DDC specified is used.

Although any 2-digit hexadecimal code may be used, the default GIWs are:

| <i>pq</i> | <i>Explanation</i>                                                                                                                                                                                                               |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7F        | Unassigned Channel Code (UAC), the default value for DE/TE type NPCs provisioned with D4 or ESF framing.                                                                                                                         |
| 18        | Unassigned Multiplex Code (UMC), the default value for DE/TE type NPCs provisioned with T1DM framing. This value should only be provisioned with T1DM framing (DA4yz or TA4yz), so the growth command enforces this restriction. |

For Clear-DS1 NPCs, the insertion word option is **NOT** available and the message will be denied if this option is entered.

The alarm indication signal (AIS) is transmitted in the disconnect or idle state.

**INCL** - Inclusive

As a protection to users, this keyword must be added to provision an NPC with D4 framing and an Insertion Word with bit 2 equal to zero. NPCs grown in the D4 format (DE1yz/TE1yz) transmit a DS1 yellow alarm by setting bit 2 to zero in all 24 DS0 channels. If the Insertion Word "pq" is unknowingly provisioned in this manner, the NPC will transmit a D4 yellow alarm signal when it is restored. The D4 yellow alarm is generated by any Insertion Word with the binary value a0cdefgh, where the letters a-h define the eight bits of the binary word. The D4 yellow alarm is not generated by an Insertion Word with a binary value a1cdefgh.

**AIS** - Alarm indication signal

**INFO** - Information

Information message (not an alarm). This is the default option.

**MJ** - Major

- MN** - Minor
- ss/n** - First improper value of "rr/m" for which the message is denied.
- mmm** - Slip major alarm threshold (0 through 255)  
**nnn** - Slip minor alarm threshold (0 through 255)
- e** - Slip major alarm threshold selection (0 through 3)  
**f** - Slip minor alarm threshold selection (0 through 3)
- p** - BER major alarm threshold,  $(1.0(10^{-5}), 3^{\dagger}$  through  $6^*$ )  
**q** - BER minor alarm threshold,  $(1.0^{-q}, 3^{\dagger}$  through  $6^*$ )
- \* 7 on T1DM and Fe framing  
† 4 for clear-DS1 FTU NPC
- g** - BER major alarm threshold selection (0 through 3)  
**h** - BER minor alarm threshold selection (0 through 3)
- rrrrr** - ERS threshold (1 through 65535, or ----- if not applicable)  
**i** - ERS threshold selection (0 through 3)
- sss** - SERS threshold (1 through 255, or --- if not applicable)  
**j** - SERS threshold selection (0 through 3)
- ttt** - COFA major alarm threshold (1 through 511)  
**uuu** - COFA minor alarm threshold (1 through 255)
- k** - COFA major alarm threshold selection (0 through 3)  
**l** - COFA minor alarm threshold selection (0 through 3)

**Note:** Major thresholds must be greater than minor thresholds. For clear-DS1 FTU NPC only SLIP and BER parameters are listed. For clear-DS1 DS3U NPC only SLIP parameters are listed.

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 00** No conditions  
**10** Unit is not equipped  
**11** UC is out of service  
**12** UC is in service but failed  
**13** FTMI is not equipped  
**20** Option rr/m has not been set up on 2nd database  
**21** Minor  $\geq$  major for SLIP opt  
**22** Minor  $\leq$  major for BER opt  
**23** Minor  $\geq$  major for COFA opt  
**24** Unit type error

**cc**    *Explanation*

- 26**    NPC type error
- 29**    IW is UMUX (18) but NPC not type DE4yz
- 2A**    DMI combined with T1DM
- 2B**    Maj|Min BER threshold is 7, but not in T1DM or Fe mode
- 34**    NPC type option xyz is unassigned
- 83**    NPC type is inconsistent with FTMI type
- 84**    Incompatible types of NPCs in a DDC
- 25**    Invalid FPI value
- 37**    Major/Minor BER threshold value is invalid for SLC NPCs
- 4E**    IW option is not allowed for new type of Clear-DS1 NPC
- 4F**    BER must not be less than 4 for Clear DS1
- BF**    MIU is not equipped
- F1**    Parameter only valid with PA, PB, or PC type NPCs
- FC**    ZBTSl option is only valid with the ESF mode
- FD**    NPC range crosses unit boundary
- 05**    This NPC type does not allow unframed Clear-DS1
- 1A**    The facility parameter not programmable for specified x or z parameter
- 9B**    The MXR is not grown
- A5**    AIS keyword incompatible with NPC type
- 04**    This NPC type does not allow Payload
- 07**    Mismatch between MXR and NPC types
- 0A**    Minor Slip threshold disabled before Major Slip threshold
- 35**    Invalid use of INCL keyword
- 36**    INCL keyword needed when restricted Insertion Word specified
- 91**    Option not programmable for this NPC type
- E5**    Invalid combination of "x" and "z" values
- E7**    Invalid combination of "x" and "y" values

## **GRTH,SYNC,TB,TYPE**

### **GROW SYNCHRONIZER TIME BASE**

#### **Explanation Of Command**

This message requests equipage of the time base circuit packs of the synchronizer. Both sides of the time base (sides 0 and 1) will be equipped by entering this command.

#### **Command**

[I.31101]

**GRTH:FRM xy,SEQ ww:SYNC,TB,TYPE TBpqr !**

#### **Completion Message**

[O.31101]

**M hh:mm:ss xy,ww n[vv] GRTH SYNC TB TYPE TBpqr COMPL**

#### **Denial Message**

[O.31101.01]

**M hh:mm:ss xy,ww n[vv] GRTH SYNC TB TYPE TBpqr COND cc DNY**

#### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**SYNC** - Synchronizer

**TB** - Time base

**p** - Time base identifier

**qr** - Unassigned

q and r can take any value from 0 through 9

**p**      *Time base*

**0**      Stratum 3

**1**      CEPT Local

**2**      CEPT Toll

**3**      Stratum 2

**cc** - Hexadecimal condition code

**cc**      *Explanation*

**AA**      Syncs are equipped

## **GRTH,SYNC,TLI,TYPE**

### **GROWTH CLOCK REFERENCE OSCILLATOR**

#### **Explanation Of Command**

This message requests equipage of the synchronizer time base as a clock reference oscillator (CRO), which is the extra (third) time base on the synchronizer. The CRO is required to provision the synchronizer to the master mode and is located in timing link interface 3 of side 1 of the synchronizer.

#### **Command**

[I.31111]

GRTH:FRM xy,SEQ ww:SYNC,TLI 3,TYPE TBpqr!

#### **Completion Message**

[O.31111]

M hh:mm:ss xy,ww n[vv] GRTH SYNC TLI 3 TYPE TBpqr CRO COMPL

#### **Denial Message**

[O.31111.01]

M hh:mm:ss xy,ww n[vv] GRTH SYNC TLI 3 TYPE TBpqr CRO \  
COND cc DNY

#### **Autonomous Message**

Not applicable.



### **Explanation Of Parameters**

---

**SYNC** - Synchronizer

**TLI** - Timing Link Interface

**TYPE** - Type

**TB** - Time base

**p** - Time base identifier

**qr** - Unassigned

q and r can take any value from 0 through 9

**p**      *Time base*

**0**      Stratum 3

**1**      CEPT Local

**2**      CEPT Toll

**3**      Stratum 2

**CRO** - Clock reference oscillator

**COND** - Condition

**cc** - Hexadecimal condition code

**cc**      *Explanation*

**01**      Subject entity is equipped

**16**      SYNC TB is not equipped

**33**      Wrong TLI type

**A5**      (Timing Distributor) TLI is not equipped

**A7**      Sync 0 is not in-service

**A8**      Sync 1 is not in-service

**A9**      Both syncs are out-of-service

**AA**      Syncs are equipped

**AB**      Bad sync mode

## **GRTH,SYNC,TLI,TYPE,SSP,SRC**

### **PROVISION SYNCHRONIZER TIMING LINK INTERFACE**

#### **Explanation Of Command**

This message requests provisioning of the synchronizer's timing link interface. The TLI can be configured as a timing extractor or as a timing distributor.

If the timing extractor is selected, you must also select synchronizer sync port (SSP) 0 or 1 and its source for priority.

Timing extractor types must be compatible for both **SSP 0** and **SSP 1**.

#### **Command**

[I.31121]

GRTH:FRM xy,SEQ ww:SYNC,TLI m,\  
{TYPE texyz,SSP a,SRC p|TYPE TDxyz}!

#### **Completion Message**

[O.31121]

M hh:mm:ss xy,ww n[vv] GRTH SYNC TLI m 2 LN MSG:  
{TYPE texyz SSP a SRC p|TYPE TDxyz} COMPL

#### **Denial Message**

[O.31121.01]

M hh:mm:ss xy,ww n[vv] GRTH SYNC TLI m 2 LN MSG:  
{TYPE texyz SSP a SRC p|TYPE TDxyz} COND cc DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**SYNC** - Synchronizer

**TLI** - Timing link interface

**m** - TLI number (1 through 4)

**TYPE** - Type

**texyz** - Timing Extractor type

| <i>te</i> | <i>Explanation</i>                      |
|-----------|-----------------------------------------|
| TC        | Composite Clock Timing Extractor        |
| TE        | DS1 Timing Extractor                    |
| TP        | Primary Block Timing Extractor          |
| TR        | Basic System Reference Frequency (BSRF) |
| TU        | Unipolar Clock Timing Extractor         |

**Note:** For the TC, TU and TR timing extractors the x, y and z parameters can be any value from 0 to 9.

Valid x, y, and z values for the other timing extractors are:

TE-type TLI xyz fields

**x** - Frame format

| <b>x</b> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|          |         |
|----------|---------|
| <b>0</b> | Invalid |
|----------|---------|

|          |           |
|----------|-----------|
| <b>1</b> | D4 Format |
|----------|-----------|

|             |            |
|-------------|------------|
| <b>2, 3</b> | ESF Format |
|-------------|------------|

|          |                   |
|----------|-------------------|
| <b>4</b> | DDS (T1DM) Format |
|----------|-------------------|

|            |         |
|------------|---------|
| <b>5-9</b> | Invalid |
|------------|---------|

**y** - Line format

| <b>y</b> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|             |                     |
|-------------|---------------------|
| <b>0, 1</b> | Bipolar Line Coding |
|-------------|---------------------|

|          |                  |
|----------|------------------|
| <b>2</b> | B8ZS Line Coding |
|----------|------------------|

|          |         |
|----------|---------|
| <b>3</b> | Invalid |
|----------|---------|

|             |                     |
|-------------|---------------------|
| <b>4, 5</b> | Bipolar Line Coding |
|-------------|---------------------|

|          |                  |
|----------|------------------|
| <b>6</b> | B8ZS Line Coding |
|----------|------------------|

|            |         |
|------------|---------|
| <b>7-9</b> | Invalid |
|------------|---------|

**z** - Channel format

| <b>z</b> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|            |            |
|------------|------------|
| <b>0-9</b> | Unassigned |
|------------|------------|

**SSP** - Synchronizer synchronization port

**a** - SSP number (0 or 1)

Required when texyz is specified.

**Note:** Timing Extractors must have the same "te" type for both SSP 0 and SSP 1.

**SRC** - Source

**p** - Priority (1 through 8)

Required when texyz is specified. 1 = HIGHEST priority, 8 = LOWEST priority

**TDxyz** - Timing Distributor type

The valid values for x, y, and z are:

TD-type TLI xyz fields

**x** - Timing distributor identification

**x** *Explanation*

**1** Composite Clock Timing Distribution

**2** Sinusoidal 2.048 MHz Timing Distribution

**y** - Unassigned

**z** - Unassigned

**cc** - Hexadecimal condition code

**cc** *Explanation*

**01** Subject entity is equipped

**16** SYNC TB is not equipped

**A7** Sync 0 is not in-service

**A8** Sync 1 is not in-service

**A9** Both syncs are out-of-service

**AC** Timing Extractor type TLI (need SSP info)

**AD** Not Timing Extractor type TLI (not SSP)

**AE** Wrong TLI type (need CRO grow command)

**AF** 3 Timing Distributor type TLIs are equipped

**B1** Illegal priority value

**B2** Illegal SSP type (not same as other SSPs)

**B3** X option is illegal

**B4** Y option is illegal

**B5** Z option is illegal

**BE** Hardware mismatch or not present

**CB** NPC parameter only valid with TU type TLI

**CC** NPC is still provisioned to provide sync timing

**CD** NPC not designated as sync timing source

**CE** NPC already allocated as sync timing source

**F1** Parameter only valid with PA, PB, or PC type NPCs

**E4** NPC already has Equipment Loopback

## **GRTH,TG,NPCTG**

### **GROWTH TEST-ACCESS GROUP**

#### **Explanation Of Command**

This command is used to provision a test-access group (TG) as a network processing circuit for test groups (NPCTG) covering a specific channel range.

The TG consists of two bundles of n consecutive DS0 channels each. The TG's width is determined by the number of channels within the range specified in the command. The east bundle of the TG is located on the first NPCTG and spans the given channel range; the west bundle is located on the second NPCTG and spans the second channel range. Both bundles may be assigned to the same NPCTG, provided the necessary bandwidth is available.

#### **Command**

[I.31421]

**GRTH:FRM xy,SEQ ww:TG mmm,NPCTG (rrr,eee[-fff];sss,www[-xxx])\**  
**[,<tc>]!**

#### **Completion Message**

[O.31421]

**M hh:mm:ss xy,ww n[vv] GRTH TG mmm NPCTG (rrr,eee[-fff];sss,\**  
**www[-xxx]) 2 LN MSG:**  
**[<tc>] COMPL**

#### **Denial Message**

[O.31421.01]

**M hh:mm:ss xy,ww n[vv] GRTH TG mmm[ <tc>] COND cc DNY**

### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

**TG** - Test (access) group

**mmm** - TG number (1 through 400)

**NPCTG** - NPC (for) test group

**rrr** - NPCTG number supporting the east bundle

**sss** - NPCTG number supporting the west bundle, may be same as rrr

**eee, fff**  
- Channel range for east bundle

**www, xxx**  
- Channel range for west bundle

001 through 024

**tc** - Trunk conditioning  
For this command trunk conditioning is limited to "TRSP,IW X'pq".  
Any other trunk conditioning specification will be denied.

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                                                  |
|-----------|------------------------------------------------------------------|
| <b>1E</b> | Customer control or red circuit exists                           |
| <b>85</b> | Using the 24th channel of a T1DM NPC                             |
| <b>86</b> | Using the 24th channel of a DMI NPC                              |
| <b>4A</b> | channel part of a TP or TG                                       |
| <b>4B</b> | channel already under test                                       |
| <b>57</b> | Designated TG or circuit to be tested in process of being rolled |
| <b>59</b> | Invalid TC specification                                         |
| <b>5D</b> | Inconsistent Signaling on CEPT NPCTGs                            |
| <b>64</b> | TG width too large for single NPCTG                              |
| <b>65</b> | Ending channel is out of range                                   |

**cc**    *Explanation*

- 66**    TG number previously assigned
- 95**    TG East/West type inconsistent with each other or circuit
- A3**    Channels assigned, cannot be grown as test group
- A8**    NPCTG not grown



## **GRTH,TP**

---

### **GROW TEST PORT**

#### **Explanation Of Command**

---

This message requests the provisioning of a test port.

If trunk conditioning is omitted from the input command the test port is provisioned as a *dynamic* test port. A dynamic test port's trunk conditioning is set to match the trunk conditioning of the circuit under test at the time the circuit is accessed.

If trunk conditioning is given in the input command the test port is provisioned as a *static* test port. A static test port's trunk conditioning is set at the time the port is provisioned. Its trunk conditioning does not change when a circuit is accessed for testing.

The *static* or *dynamic* designations have meaning only for access to unmapped terminations.

For access to a mapped termination, trunk conditioning is always adopted from the circuit under test.

#### **Command**

---

[I.31411]

**GRTH:FRM xy,SEQ ww:TP kk[,<tc>]!**

#### **Completion Message**

---

[O.31411]

**M hh:mm:ss xy,ww n[vv] GRTH TP kk [<tc>] COMPL**

### **Denial Message**

---

[O.31411.01]

M hh:mm:ss xy,ww n[vv] GRTH TP kk[ <tc>] NPCTP UEQD DNY

[O.31411.02]

M hh:mm:ss xy,ww n[vv] GRTH TP kk[ <tc>] TP NSO DNY

[O.31411.03]

M hh:mm:ss xy,ww n[vv] GRTH TP kk[ <tc>] TERM ASGN DNY

[O.31411.04]

M hh:mm:ss xy,ww n[vv] GRTH TP kk[ <tc>] IMPR TC DNY

[O.31411.08]

M hh:mm:ss xy,ww n[vv] GRTH TP kk[ <tc>] COND cc DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

TP - Test port

kk - Test port number (01 through 96)

A 1.544Mbit/s non-SLC NPC will support 12 test ports numbered as follows:

| TA Port                 | Channel |    |
|-------------------------|---------|----|
|                         | FROM    | TO |
| 01,13,25,37,49,61,73,85 | 1       | 2  |
| 02,14,26,38,50,62,74,86 | 3       | 4  |
| 03,15,27,39,51,63,75,87 | 5       | 6  |
| 04,16,28,40,52,64,76,88 | 7       | 8  |
| 05,17,29,41,53,65,77,89 | 9       | 10 |
| 06,18,30,42,54,66,78,90 | 11      | 12 |
| 07,19,31,43,55,67,79,91 | 13      | 14 |
| 08,20,32,44,56,68,80,92 | 15      | 16 |
| 09,21,33,45,57,69,81,93 | 17      | 18 |
| 10,22,34,46,58,70,82,94 | 19      | 20 |
| 11,23,35,47,59,71,83,95 | 21      | 22 |
| 12,24,36,48,60,72,84,96 | 23      | 24 |

#### tc

- Trunk conditioning

Represents the desired signaling and insertion word to be applied when a failure occurs. A trunk conditioning specification consists of a combination of a signaling specification followed by an insertion word specification. For example, TRSP,IW X'pq (input form).

| <i>signaling</i>       | <i>Explanation</i>                   |
|------------------------|--------------------------------------|
| TC(ijkl,mnop)          | 2-way, 4-state signaling in binary.  |
| TC(ijklmnop,qrstuvwxy) | 2-way, 16-state signaling in binary. |
| TC(X'ab,X'cd)          | 2-way, 16-state in hexadecimal.      |
| TRSP                   | Transparent, no signaling.           |

| <i>insertion word</i> | <i>Explanation</i>                                                                                                                       |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| IW X'pq               | The 8-bit pattern corresponding to the hexadecimal value of pq will be inserted in the downstream direction of a failure on either line. |
| TRB                   | Standard trouble code, equal to IW X'E4.                                                                                                 |
| MUX                   | MUX out of sync code, equal to IW X'1A.                                                                                                  |

For 4-state signaling, the A/B signaling bits of both test port channels are specified by ijkl for the receive time slot interchange (RTSI), and by mnop for the transmit time slot interchange (TTSI).

For 16-state signaling, the A/B/C/D signaling bits of both test port channels are specified by efghijkl (or hexadecimal digits ab) for the RTSI, and by mnopqrst (or hexadecimal digits cd) for the TTSL.

**NPCTP** - NPC for test ports

**UEQD** - Unequipped

**TP NSO** - Test port not in sequence order

**TERM** - Terminated

**ASGN** - Assigned

**IMPR** - Improper

**TC** - Trunk conditioning

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

**1E** Customer control or red circuit exists

**82** Can not use 12-th TP when NPCTP is in the T1DM or DMI mode

**FF** Termination is in process of being rolled

**50** Invalid MIU/MXR type specified

**4B** channel already under test

## **GRTH,UNIT,FTMI,EQL**

### **PROVISION FACILITY TERMINATING MODULE INTERFACE**

#### **Explanation Of Command**

This message requests provisioning of the facility terminating module (FTM) and its interface and format converter in DACS II **UNIT q** with a specified equalization. Equalization may be specified for either a half or a whole FTM.

#### **Command**

[I.31321]

GRTH:FRM xy,SEQ ww:UNIT [q]q,FTMI d,EQL(l,r)!

#### **Completion Message**

[O.31321]

M hh:mm:ss xy,ww n[vv] GRTH UNIT [q]q FTMI d FC 0d 1d EQL(l r) \  
COMPL

#### **Denial Message**

[O.31321.01]

M hh:mm:ss xy,ww n[vv] GRTH UNIT [q]q FTMI d FC 0d 1d EQL(l r) \  
COND cc DNY

#### **Autonomous Message**

Not applicable.

**Explanation Of Parameters**

---

|             |                                                                         |
|-------------|-------------------------------------------------------------------------|
| <b>UNIT</b> | - Unit                                                                  |
| <b>[q]q</b> | - Unit number (1 through 16)                                            |
| <b>FC</b>   | - Format converter                                                      |
| <b>0</b>    | - FC side 0                                                             |
| <b>1</b>    | - FC side 1                                                             |
| <b>d</b>    | - FC number (1 through 4)                                               |
| <b>FTMI</b> | - Facility terminating module interface                                 |
| <b>d</b>    | - FTMI in the DACS II unit (1 through 4)                                |
| <b>EQL</b>  | - Equalization                                                          |
| <b>l</b>    | - Left half shelf equalization value (first 10 Dual Digroup Circuits)   |
| <b>r</b>    | - Right half shelf equalization value (second 10 Dual Digroup Circuits) |

Equalization option values for 255AS/24 gauge cable

|          |                    |
|----------|--------------------|
| <b>l</b> |                    |
| <b>r</b> | <i>Explanation</i> |
| 1        | 000 to 100 feet    |
| 2        | 100 to 200 feet    |
| 3        | 200 to 300 feet    |
| 4        | 300 to 400 feet    |
| 5        | 400 to 500 feet    |

Equalization option values for 600 series/22 gauge cable

|          |                    |
|----------|--------------------|
| <b>l</b> |                    |
| <b>r</b> | <i>Explanation</i> |
| 1        | 000 to 050 feet    |
| 2        | 051 to 267 feet    |
| 3        | 268 to 400 feet    |
| 4        | 401 to 533 feet    |
| 5        | 534 to 655 feet    |

Equalization option values for 1249/26 gauge cable

| <b>l</b> |                    |
|----------|--------------------|
| <b>r</b> | <i>Explanation</i> |
| 1        | 000 to 090 feet    |
| 2        | 090 to 180 feet    |
| 3        | 180 to 270 feet    |
| 4        | 270 to 360 feet    |
| 5        | 360 to 450 feet    |

**COND** - Condition

**cc** - Hexadecimal condition code

| <b>cc</b> | <i>Explanation</i>          |
|-----------|-----------------------------|
| <b>01</b> | Subject entity is equipped  |
| <b>10</b> | Unit is not equipped        |
| <b>11</b> | UC is out of service        |
| <b>12</b> | UC is in service but failed |
| <b>24</b> | Unit type error             |

## **GRTH,UNIT,MIU,TYPE**

### **GROWTH MULTIPLEXER INTERFACE UNIT**

#### **Explanation Of Command**

This message equips one or more Multiplexer Interface Unit (MIU) circuit packs in a DS3 Unit. As many as seven MIUs can be equipped with one command.

#### **Command**

[I.31501]

GRTH:FRM xy,SEQ ww:UNIT [q]q,MIU c[-d][,TYPE mnxyz]!

#### **Completion Message**

[O.31501]

M hh:mm:ss xy,ww n[vv] GRTH UNIT [q]q MIU a TYPE mnxyz COMPL

#### **Denial Message**

[O.31501.01]

M hh:mm:ss xy,ww n[vv] GRTH UNIT [q]q MIU a[ TYPE mnxyz] EQD \  
DNY

[O.31501.02]

M hh:mm:ss xy,ww n[vv] GRTH UNIT [q]q MIU a[ TYPE mnxyz] \  
COND cc DNY

#### **Autonomous Message**

Not applicable.



### Explanation Of Parameters

|                 |                                                   |
|-----------------|---------------------------------------------------|
| <b>UNIT</b>     | - Unit                                            |
| <b>[q]q</b>     | - Unit number (1 through 16)                      |
| <b>MIU</b>      | - Multiplexer interface unit                      |
| <b>c,<br/>d</b> | - MIU numbers within the unit ( P, 1 through 6 )  |
| <b>TYPE</b>     | - Type                                            |
| <b>mnxyz</b>    | - MIU type. The only MIU type available is MI100. |
| <b>EQD</b>      | - the MIU is already equipped.                    |
| <b>a</b>        | - MIU number within the range of MIU c and MIU d. |
| <b>cc</b>       | - Hexadecimal condition code                      |

#### **cc**    *Explanation*

|           |                                   |
|-----------|-----------------------------------|
| <b>10</b> | Unit is not equipped              |
| <b>11</b> | UC is out of service              |
| <b>12</b> | UC is in service but failed       |
| <b>50</b> | Invalid MIU/MXR type specified    |
| <b>52</b> | The MMFG is protected             |
| <b>09</b> | Wrong MXR type grown for this MIU |

## **GRTH,UNIT,MXR,TYPE,BERM,BERT,LBO**

### **GROWTH MULTIPLEXER**

#### **Explanation Of Command**

This message equips one or more Multiplexer (MXR) circuit packs and their associated DS3 facility's in the service slots of a DACS II DS3 Unit. The protection MXR circuit pack is not grown because no specific DS3 facility is associated with it.

Up to six MXRs and their DS3 facilities can be grown with one command.

There will be one output message (either completion or denial) for each MXR that is grown.

#### **Command**

[I.31511]

GRTH:FRM xy,SEQ ww:UNIT [q]q,MXR c[-d]\  
[,TYPE mnxyz][,BERM s][,BERT t][,LBO <b>]!

#### **Completion Message**

[O.31511]

M hh:mm:ss xy,ww n[vv] GRTH UNIT [q]q MXR a \  
TYPE mnxyz BERM s BERT t LBO <b> COMPL

#### **Denial Message**

[O.31511.01]

M hh:mm:ss xy,ww n[vv] GRTH UNIT [q]q MXR a[ TYPE mnxyz] \  
[ BERM s][ BERT t][ LBO <b>] EQD DNY

[O.31511.02]

M hh:mm:ss xy,ww n[vv] GRTH UNIT [q]q MXR a 2 LN MSG:  
[TYPE mnxyz ][BERM s ][BERT t ][LBO <b> ]COND cc DNY

### Autonomous Message

Not applicable.

### Explanation Of Parameters

|              |                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------|
| <b>UNIT</b>  | - Unit                                                                                                  |
| <b>[q]q</b>  | - Unit number (1 through 16)                                                                            |
| <b>MXR</b>   | - Multiplexer                                                                                           |
| <b>c</b>     | - MXR number within the unit (1 through 6)                                                              |
| <b>d</b>     | - MXR number within the unit (1 through 6)                                                              |
|              | Variable d is used to specify a range of MXRs                                                           |
| <b>a</b>     | - MXR number within the range of MXR c and MXR d                                                        |
| <b>TYPE</b>  | - Type                                                                                                  |
| <b>mnxyz</b> | - The requested DS3 format that will be processed by the MXR                                            |
| <b>mn</b>    | - DS3 type                                                                                              |
|              | <i>mn Explanation</i>                                                                                   |
|              | MX The original Release 4.0 DS3 facility type supported by the Multiplexer (MXR) circuit pack           |
|              | EX The enhanced Release 6.0 DS3 facility type supported by the Enhanced Multiplexer (EMXR) circuit pack |
|              | Default is the MX type for backward compatibility.                                                      |
| <b>x</b>     | - DS3 framing format                                                                                    |
|              | <i>x Format</i>                                                                                         |
|              | 1 M13 format (default)                                                                                  |
|              | 2 C-bit parity format                                                                                   |
| <b>y</b>     | - Not assigned (the only valid value is 0)                                                              |
| <b>z</b>     | - Not assigned (the only valid value is 0)                                                              |

The optional settings available for each MXR are:

|             |                                                             |
|-------------|-------------------------------------------------------------|
| <b>BERM</b> | - Bit error rate calculation method                         |
| <b>s</b>    | - The requested BER calculation method                      |
| <i>s</i>    | <i>BER calculation method</i>                               |
| <b>B</b>    | Bipolar violations (default)                                |
| <b>P</b>    | DS3 Parity Errors                                           |
| <b>BERT</b> | - Bit error rate threshold for declaring High BER condition |
| <b>t</b>    | - Requested BER threshold                                   |
| <i>t</i>    | <i>BER threshold</i>                                        |
| <b>3</b>    | Corresponds to threshold of $10^{-3}$ (default)             |
| <b>6</b>    | Corresponds to threshold of $10^{-6}$                       |
| <b>LBO</b>  | - Line buildout                                             |
| <b>b</b>    | - LBO specification                                         |
| <i>b</i>    | <i>Explanation</i>                                          |
| <b>ON</b>   | Line build out is turned on                                 |
| <b>OFF</b>  | Line build out is turned off (default)                      |

LBO is required as shown in the following table.

|                                                      |
|------------------------------------------------------|
| 734A Cabling to DSX-3KS-19224,L2 Cabling to DSX-3LBO |
| 0 to 225 feet    0 to 75 feetON                      |
| 225 to 450 feet    75 to 150 feetOFF                 |

**Note:** LBO <b> may be used to change the LBO setting of an in-service, traffic- carrying Multiplexer-Multiplexer Interface Unit (MMFG).

**cc**    - Hexadecimal condition code

**cc**    *Explanation*

|           |                             |
|-----------|-----------------------------|
| <b>10</b> | Unit is not equipped        |
| <b>11</b> | UC is out of service        |
| <b>12</b> | UC is in service but failed |

## **GRTH,UNIT,TYPE,CONN**

### **PROVISION A UNIT**

#### **Explanation Of Command**

This command requests the provisioning of a DACS II unit.

For a NonCEF frame this will result in the provisioning of all cross-connect and time slot interchange circuit packs. For a CEF frame this will result in the provisioning of the expanded time slot interchanger. When this request has completed, all circuit packs required by the subject unit to cross-connect to other equipped units have been provisioned.

The unit type is optionally specified in the **TYPE** field.

The unit type can be a facility terminating unit, a DS3 terminating unit, or a digital signal processing unit.

If the unit is a digital signal processing unit, its associated digital signal processing interface is also provisioned. If the unit is a DS3 facility terminating unit, both of its associated service and protection facility line interface packs, both sides of its formatter packs (side 0 and 1), and its protection multiplexer are also provisioned.

**Note:** DMB, TSI, and FMT circuit packs must be inserted into the inactive side of DACS II. Inserting circuit packs into the active side may result in transmission "hits."

#### **Command**

For DACS II Non-CEF frames:  
[I.31211]

```
GRTH:FRM xy,SEQ ww:UNIT q[,TYPE utxyz]\  
[,CONN(a[,b[,c[,d[,e [,f]]]]))!]
```

For DACS II CEF frames:

[I.31211]

GRTH:FRM xy,SEQ ww:UNIT [q]q[,TYPE utxyz]!

### Completion Message

---

For DACS II Non-CEF frames:

[O.31211]

M hh:mm:ss xy,ww n[vv] GRTH UNIT q {FT|DP|DT}xyz\  
[ CONN a b c d e f]

5 LN MSG:

CCB 0q 1q TOTAL TSIS tt NEW TSIS nn  
sft sft sft sft sft sft sft sft sft sft sft sft  
sft sft sft sft sft sft sft sft sft sft sft sft  
sft sft sft sft sft sft sft sft sft sft sft sft EOM

M hh:mm:ss xy,ww n[vv] GRTH UNIT q {FT|DP|DT}xyz\  
[ CONN a b c d e f]

5 LN MSG:

CCB 0q 1q TOTAL TSIS tt NEW TSIS nn  
sft sft sft sft sft sft sft sft sft sft sft sft  
sft sft sft sft sft sft sft sft sft sft sft sft  
sft sft sft sft sft sft sft sft sft sft sft sft EOM

M hh:mm:ss xy,ww n[vv] GRTH UNIT q {FT|DP|DT}xyz\  
[ CONN a b c d e f]

e LN MSG:

CCB 0q 1q TOTAL TSIS tt NEW TSIS nn  
NEW TSIS sft sft ... sft sft  
NEW TSIS sft sft ... sft sft [COMPL]  
[FMT 0 1 FLI S P MXR P COMPL]

For DACS II CEF frames:

[O.31212]

```
M hh:mm:ss xy,ww n[vv] GRTH UNIT qq TYPE utxyz \
e LN MSG:
ETSI 0qq 1qq TOTAL ETSIS kk
0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr
0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr\
[ COMPL]
[FMT 0 1   FLI S P   MXR P COMPL]
```

**Note:** If the unit type is FT100 or DP100, the output will be a 4-line message. If the unit type is DT100, the output will be a 5-line message.

### Denial Message

[O.31211.01]

```
M hh:mm:ss xy,ww n[vv] GRTH UNIT [q]q TYPE utxyz\
{EQD uexyz|NSUP} DNY
```

[O.31211.02]

```
M hh:mm:ss xy,ww n[vv] GRTH UNIT [q]q TYPE utxyz COND cc DNY
```

### Autonomous Message

Not applicable.

### Explanation Of Parameters

|              |                                               |
|--------------|-----------------------------------------------|
| <b>UNIT</b>  | - Unit                                        |
| <b>[q]q</b>  | - Unit number (1 through 16)                  |
| <b>utxyz</b> | - Unit type as submitted in the input message |
| <b>uexyz</b> | - Type of unit already equipped as            |
|              | <i>uexyz      Explanation</i>                 |
|              | FT100    FT = Facility Terminating Unit       |
|              | DP100    DP = Digital Signal Processing Unit  |
|              | DT100    DT = DS3 Facility Terminating Unit   |

The unit type is optionally specified in the TYPE utxyz field. The unit type can be an FTxyz (Facility Terminating Unit), DTxyz (DS3 Terminating Unit), or a DPxyz (Digital Signal Processing Unit) type.

Currently, only FT100, DT100, and DP100 types are supported by DACS II.

The unit type entered must be consistent with the unit type entered for the configuration file.

If the unit is a DPxyz type, its associated DSPI (Digital Signal Processing Interface) is also provisioned.

If the unit is a DTxyz type, both of its associated Service and Protection Facility Line Interface (FLI) packs, both sides of its Formatter (FMT) packs (side 0 and 1), and its Protection Multiplexer (MXR) pack are also provisioned.

For both Non-CEF and CEF frames, if the unit type is not entered, the unit type will default to FT100.

For Non-CEF frames, the optional CONN field is used if only a partial complement of the unit's TSI circuit packs is to be provisioned. If this field is not used, all TSI circuit packs are provisioned and the unit has full connectivity with other provisioned units.

**CONN**

- Connectivity

**a, b, c, d, e, f**

- Time slot interchange numbers

A partial complement of the unit's TSIs have been provisioned. (If this field is absent, all of the unit's TSIs were provisioned.)

**CCB**

- Cross-connect buffer

**0q**

- CCB number side 0

**1q**

- CCB number side 1

0q and 1q identify the cross-connect buffer(s) provisioned. q is the unit number (see UNIT above).

**tt**

- Total number of provisioned TSIs in frame (02 through 72)



|             |                                                                                                             |
|-------------|-------------------------------------------------------------------------------------------------------------|
| <b>NEW</b>  | - New                                                                                                       |
| <b>TSIS</b> | - Time slot interchangers                                                                                   |
| <b>nn</b>   | - Number of TSIs provisioned by command (02 through 22)                                                     |
| <b>sft</b>  | - TSI equipped status                                                                                       |
| <b>s</b>    | - Service side number (0 or 1)                                                                              |
| <b>f</b>    | - Equipped FROM unit number (1 through 6) if equipped                                                       |
| -           | - Not equipped                                                                                              |
| <b>t</b>    | - Equipped TO unit number (1 through 6) if equipped                                                         |
| -           | - Not equipped                                                                                              |
| <b>e</b>    | - Number of lines in message                                                                                |
|             | Equals either 4 or 5 depending on the type of the unit provisioned.                                         |
| <b>ETSI</b> | - Expanded timeslot interchanger                                                                            |
| <b>0qq</b>  | - ETSI number side 0                                                                                        |
| <b>1qq</b>  | - ETSI number side 1                                                                                        |
|             | 0qq and 1qq identify the ETSI packs provisioned by this command.<br>qq is the unit number (see UNIT above). |
|             | Three dashes "---" are shown if an ETSI pack is not provisioned.                                            |
| <b>kk</b>   | - Total number of provisioned ETSIs in frame (02 through 32)                                                |
| <b>rr</b>   | - Unit number with the same definition as qq.                                                               |
| <b>FMT</b>  | - Formatter, sides 0 and 1 (automatically provisioned with DT100 units)                                     |
| <b>FLI</b>  | - Facility line      interface                                                                              |
| <b>S</b>    | - Service FLI (automatically provisioned with DT100 units)                                                  |
| <b>FLI</b>  | - Facility line      interface                                                                              |
| <b>P</b>    | - Protection FLI (automatically provisioned with DT100 units)                                               |
| <b>MXR</b>  | - Multiplexer                                                                                               |
| <b>P</b>    | - Protection multiplexer (automatically provisioned with DT100 units)                                       |
| <b>EQD</b>  | - Equipped                                                                                                  |
| <b>NSUP</b> | - Not supported                                                                                             |

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 27** Illegal connectivity specified
- 28** Connectivity contains unequipped units
- 97** Entity can't be addressed in this configuration
- 99** Unit type (xyz) not supported
- CA** Connectivity can not be specified for CEF unit

---

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## **IN — INVALID**

---

This section documents the commands **IN** through **INVALID**.

## **IN,PROGRESS**

### **GENERIC IN PROGRESS MESSAGE**

#### **Explanation Of Command**

This output message indicates that the requested action (verb) is in progress.

#### **Command**

Not applicable.

#### **Completion Message**

[O.55703]

M hh:mm:ss xy,ww n[vv] <verb> IN PROGRESS

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

Not applicable.

#### **Explanation Of Parameters**

Not applicable.

## **INH,PMREPT,NPC,ALL**

### **INHIBIT DS1 PERFORMANCE MONITORING REPORT**

#### **Explanation Of Command**

This message inhibits DACS II scheduled performance monitoring report output for DA and TA type NPCs. The user may inhibit performance monitoring report output for a single, range or all NPCs on the frame.

This command will handle NPC addressing in the input command as follows: If only a single NPC is addressed in the input command, then either a completion or denial response will be generated for the addressed NPC. DACS II will always deny invalid commands to specifically addressed NPCs.

If a range of NPCs is addressed and the feature applies to one or more NPCs within the range, DACS II will inhibit outputting the scheduled reports for the NPCs in the range that support this feature, but skip the NPCs which do not support this feature. DACS II provides a variety of line termination types which support different features and can be randomly mixed within the frame. If at least one of the NPCs in the addressed range supports this feature, DACS II will generate a completion response for the entire range of NPCs; individual denial responses will not be generated for NPCs within the range which do not support the feature. If *none* of the NPCs in the addressed range support the requested feature, DACS II will generate a range denial response.

#### **Command**

##### **Nonhierarchical**

[I.51161]

**INH:FRM xy,SEQ ww:PMREPT,{NPC [s]abc[-[t]def]|ALL}!**

### **Hierarchical**

---

[I.51161]

INH:FRM xy,SEQ ww:PMREPT,{NPC uvmnp[-wxkqr]|ALL}!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.51161]

M hh:mm:ss xy,ww n[vv] INH PMREPT {NPC [s]abc[-[t]def]|ALL} COMPL

#### **Hierarchical**

---

[O.51161]

M hh:mm:ss xy,ww n[vv] INH PMREPT {NPC uvmnp[-wxkqr]|ALL} COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.51161.01]

M hh:mm:ss xy,ww n[vv] INH PMREPT {NPC [s]abc[-[t]def]|ALL} COND cc DNY

#### **Hierarchical**

---

[O.51161.01]

M hh:mm:ss xy,ww n[vv] INH PMREPT {NPC uvmnp[-wxkqr]|ALL} COND cc DNY

### **Autonomous Message**

---

Not applicable.



## Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical starting NPC number

[t]def - The 3- or 4-digit nonhierarchical ending NPC number

The valid values are:

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical starting NPC number  
**wxkqr** - Hierarchical ending NPC number

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**cc** - Hexadecimal condition code

**cc** *Explanation*

**15** NPC is unequipped

**26** NPC type error

**0C** PM scheduling report is already inhibited for this entity

**17** Command did not execute for any entity specified in the command

## **INHSW,UNIT,MMFG,TOPRTN,TOSRVC**

### **INHIBIT SWITCH MMFG**

#### **Explanation Of Command**

This message requests the inhibition of automatic protection switching from multiplexer-multiple interface unit functional group (MMFG) c on a DS3 unit to MMFG P or the automatic switchback from MMFG P to service MMFG c (when MMFG c becomes in-service). Only automatic switches due to failure will be affected by this message.

If **TOPRTN** is specified and MMFG P is already protecting the MMFG c's facility, the command will be denied.

If **TOSRVC** is specified and MMFG c is not under protection, the command will be denied.

This inhibition will be removed if a switch occurs from the "selected" MMFG.

#### **Command**

[I.35311]

**INHSW:FRM xy,SEQ ww:UNIT [q]q,MMFG c[-d],{TOPRTN|TOSRVC}!**

#### **Completion Message**

[O.35311]

**M hh:mm:ss xy,ww n[vv] INHSW UNIT [q]q MMFG a {TOPRTN|TOSRVC} \**  
**COMPL**

### **Denial Message**

---

[O.35311.01]

**M** hh:mm:ss xy,ww n[vv] **INHSW UNIT** [q]q **MMFG a** {TOPRTN|TOSRVC} \  
**COND cc DNY**

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**MMFG** - Multiplexer-multiplexer interface unit functional group

**c, d** - The number of the MMFG within the unit (1 - 6)

**TOPRTN** - To protection

**TOSRVC** - To service

When TOSRVC is specified, a range of MMFGs is not acceptable. In this case the command will be denied.

**a** - The number of the service MMFG within the range c and d

**cc** - Hexadecimal condition code

**cc** *Explanation*

**10** Unit is not equipped

**11** UC is out of service

**12** UC is in service but failed

**44** Service MXR is not equipped

**4B** The Service MMFG is already under protection

**4C** The Service MMFG is not under protection

**4E** The switch is already inhibited

## **INVALID,SFW,ID,BLOCK,COND**

### **INVALID SOFTWARE IDENTIFICATION BLOCK**

#### **Explanation Of Command**

This message indicates that either a software identification block check failed or that a mismatch exists in the generic number, point issue, or release number.

#### **Command**

Not applicable.

#### **Completion Message**

[O.01291]

**I hh:mm:ss xy,ww INVALID SFW ID BLOCK COND cc COMPL**

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**SFW** - Software

**ID** - Identification

**BLOCK** - Block

**COND** - Condition

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>Explanation</b> |
|-----------|--------------------|
|-----------|--------------------|

|           |                                                      |
|-----------|------------------------------------------------------|
| <b>20</b> | <b>Software Identification Block is not readable</b> |
|-----------|------------------------------------------------------|

|           |                                                            |
|-----------|------------------------------------------------------------|
| <b>21</b> | <b>Software Identification Block failed<br/>comparison</b> |
|-----------|------------------------------------------------------------|

|           |                                |
|-----------|--------------------------------|
| <b>22</b> | <b>Release number mismatch</b> |
|-----------|--------------------------------|

|           |                              |
|-----------|------------------------------|
| <b>23</b> | <b>Point number mismatch</b> |
|-----------|------------------------------|

|           |                                    |
|-----------|------------------------------------|
| <b>24</b> | <b>PDI Version number mismatch</b> |
|-----------|------------------------------------|

|           |                                               |
|-----------|-----------------------------------------------|
| <b>A5</b> | <b>FPI on SMEM does not match one on PMEM</b> |
|-----------|-----------------------------------------------|

---

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---

## **LINE — LOGOFF**

---

This section documents the commands **LINE** through **LOGOFF**.

## **LINE**

---

### **QUERY LINE NUMBER**

#### **Explanation Of Command**

---

This command retrieves the current line number and the total number of lines within the macro while in a macro session.

#### **Command**

---

[I.19071]

**LINE[:FRM xy,SEQ ww:]!**

#### **Completion Message**

---

[O.19071]

**M hh:mm:ss xy,ww n[vv] LINE <line pointer> TOTAL \  
<line total> COMPL**

#### **Denial Message**

---

Not applicable.

#### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**LINE** - Line

**line pointer**

- Current line number

**TOTAL** - Total

**line total**

- Total number of lines within the macro

## **LIST,END**

---

### **LIST MACRO CONTENTS**

#### **Explanation Of Command**

---

This command is used to list the contents of a macro. If neither a range of line numbers nor END is specified then the line pointed to by the line pointer (the current line) is listed.

#### **Command**

---

[I.19061]

```
LIST[:FRM xy,SEQ ww:{<starting line>|END}[-{<ending line>|\
END}]]!
```

#### **Completion Message**

---

If the macro contains no component command,

[O.19061]

```
M hh:mm:ss xy,ww n[vv] LIST[ {<starting line>|\
END}[-{<ending line>|END}]] NONE COMPL
```

If the macro contains one or more component commands,

[O.19062]

```
M hh:mm:ss xy,ww n[vv] LIST[ {<starting line>|\
END}[-{<ending line>|END}]] e LN MSG:
00001 <first 65 characters of 1st component command text>
    <remaining characters of 1st component command text>
    .
    .
    .
mmmmm <first 65 characters of mth component command text>
    <remaining characters of mth component command text> \
{EOM|COMPL}

M hh:mm:ss xy,ww n[vv] LIST[ <starting line>\
[-<ending line>]] e LN MSG:
nnnnn <first 65 characters of nth component command text>
    <remaining characters of nth component command text>
    .
    .
    .
ppppp <first 65 characters of pth component command text>
    <remaining characters of pth component command text> \
{EOM|COMPL}

M hh:mm:ss xy,ww n[vv] LIST[ <starting line>\
[-<ending line>]] e LN MSG:
qqqqq <first 65 characters of qth component command text>
    <remaining characters of qth component command text>
    .
    .
    .
zzzzz <first 65 characters of zth component command text>
    <remaining characters of zth component command text> \
COMPL
```

### Denial Message

---

[O.19061.01]

```
M hh:mm:ss xy,ww n[vv] LIST[ {<starting line>|\
END}[-{<ending line>|END}]] COND cc DNY
```

## **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

---

### **starting line**

- Beginning line number of a line range (1, 2, ..., n)

Starting line indicates the line number of the first line of a range of lines within a macro that are to be listed.

### **ending line**

- Ending line number of a line range (2, 3, ..., n+1)

Ending line indicates the line number of the last line of a range of lines within a macro that are to be deleted.

**END** - End

Line number of the line at the end of the macro.

**00001,**

**mmmmm,**

**nnnnn,**

**ppppp,**

**qqqqq,**

**zzzzz** - Component command line numbers (00001 through 99999)

**cc** - Hexadecimal condition code

**cc** *Explanation*

**6B** Invalid line number

**6E** No edit session active

## **LOGIN,USER,PASSWD**

### **LOG ON TO DACS II**

#### **Explanation Of Command**

**Note:** Before logging on to DACS II for the first time, it is suggested that the user thoroughly read the documentation for this message.

This command allows a user or frame administrator to identify himself/herself to DACS II by an identification code, the **user id**, on any link.

DACS II checks the user id and password against entries previously stored in the data base. If the user is not authorized, DACS II will deny the input command.

A user can log on to DACS II from more than one link.

*If on a Snider administrative link, the command must be entered as follows:*

**LOGIN:FRM xy,SEQ ww:USER <user id>!**

The DACS II system will respond with the following dialogue:

PASSWD: The user enters a password. Note that the password is not echoed by DACS II.

*If on an X.25 administrative link, the command must be entered as follows:*

**LOGIN:FRM xy,SEQ ww:USER <user id>,PASSWD <user password>!**

Output from this command is sent only to the link on which the command was input.



### **Command**

---

[I.39001]

**LOGIN:FRM xy,SEQ ww:USER <user id>[,PASSWD <user password>]!**

If the user is on a Snider protocol administrative link, the message is entered as follows:

[I.39001]

**LOGIN:FRM xy,SEQ ww:USER <user id>!**

Then DACS II will prompt the following:

**PASSWD: <user enters the user password>**

### **Completion Message**

---

[O.39001]

**M hh:mm:ss xy,ww n[vv] LOGIN USER <user id> COMPL**

#### **WARNING MESSAGE**

**THIS SYSTEM IS RESTRICTED TO [AT&T ]AUTHORIZED USERS FOR  
BUSINESS PURPOSES. UNAUTHORIZED ACCESS IS A VIOLATION OF THE  
LAW. THIS SERVICE MAY BE MONITORED FOR ADMINISTRATIVE AND SECU-  
RITY REASONS. BY PROCEEDING, YOU CONSENT TO THIS MONITORING.**

### **Denial Message**

---

[O.39001.01]

**M hh:mm:ss xy,ww n[vv] LOGIN USER <user id> COND cc DNY**

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**USER** - User

**user id**

- User identifier

The user login identification (two to eight alphabetic characters)

**PASSWD** - Password

**user password**

- User password (at least six alphanumeric characters)

**cc** - Hexadecimal condition code

**cc** *Explanation*

**D3** User does not exist

**D4** A user is already logged in on the link/vc

**D6** Incorrect or missing password

## **LOGOFF,USER,LINK,INCL**

### **LOG OFF USER OR LINK**

#### **Explanation Of Command**

This command requests DACS II to log off a user or a link. A user is specified by his or her **<user id>**; a link, by its physical link number. The virtual circuit number is optional. The INCL keyword is also optional. The virtual circuit number and INCL are mutually exclusive. The INCL keyword must be specified to log off all virtual circuits of an X.25 link (5 or 6).

The DACS II frame administrator can use the **<user id>** option from any link to log off any user on another link. If the user is logged in on more than one link and is not the frame administrator, DACS II will log the user off every link. An autonomous message will appear on the user's link if the frame administrator logs a user out.

Output from this command is sent only to the link on which the command was input.

#### **Command**

[I.39101]

**LOGOFF:FRM xy,SEQ ww:{USER <user id>|LINK j[mm][,INCL]}!**

#### **Completion Message**

[O.39101]

**M hh:mm:ss xy,ww n[vv] LOGOFF {USER <user id>|LINK j[mm][,INCL]} \**  
**COMPL**

### **Denial Message**

---

[O.39101.01]

**M** hh:mm:ss xy,ww n[vv] LOGOFF {USER <user id>|LINK j[mm][,INCL]} \

**COND** cc DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**USER** - User

**user id**

- User identifier (two to eight alphabetic characters)

User login identification

**TERM** - Terminal (link)

**LINK** - Link

**j [mm]** - Administrative link number

**j** - Physical link number (1 through 6)

**mm** - Virtual circuit number (01 through 16)

The virtual circuit number must be entered when logging off a single virtual circuit of an X.25 link.

**INCL** - Inclusive

Include virtual circuits of links 5 and 6. The INCL keyword can only be entered with X.25 links 5 and 6, and no virtual circuit number is allowed when this keyword is used. That is, "mm" and "INCL" are mutually exclusive. In addition, the INCL keyword is also mutually exclusive with the "<user id>". When the INCL keyword is entered, it means that the logoff applies to all the virtual circuits of X.25 link (5 or 6).

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

- D3** User does not exist
- D5** No user is logged in on the link/vc
- D7** Cannot execute privileged command
- DA** User is not logged in
- E1** Virtual circuit is not specified for X.25 link
- E2** Invalid link number specified
- E3** Invalid keyword(s) combination specified

---

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---

## **MC — MTC**

---

This section documents the commands **MC** through **MTC**.



## **MC,MCOND**

---

### **UTILITIES**

#### **Explanation Of Command**

---

This autonomous message reports that the Main Controller is in maintenance condition during the boot process.

#### **Command**

---

Not applicable.

#### **Completion Message**

---

Not applicable.

#### **Denial Message**

---

Not applicable.

#### **Autonomous Message**

---

[O.58011]

I hh:mm:ss xy,ww MC MCOND

### **Explanation Of Parameters**

---

**MC** - Main controller

**MCOND** - Maintenance condition

## **MC,RESET,RELEASE,ISSUE,FPKG,COND**

### **MAIN CONTROLLER RESET RELEASE DACS II ISSUE**

#### **Explanation Of Command**

This message is used to report that the reset procedure has successfully completed.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01261]

I hh:mm:ss xy,ww n[vv] MC RESET RELEASE DACSIgg.pp ISSUE r \\  
2 LN MSG:  
FPKG kkttuuvv [COND cc] COMPL

### **Explanation Of Parameters**

---

**MC** - Main controller

**RESET** - Reset

**RELEASE**  
- Release

**ISSUE** - Issue

**gg.pp** - DACS II software release number

**r** - Software issue number of the release

**FPKG** - Feature package

**kkttuuvv**  
- Feature package identification (Hex)

| kkttuuvv | Feature                                       |
|----------|-----------------------------------------------|
| 00000001 | DS1                                           |
| 00000002 | CEPT                                          |
| 00000004 | Subrate                                       |
| 00000008 | Direct SLC® 96 and Series 5 Carrier Interface |
| 00000010 | DS3 Terminations                              |
| 00000020 | Enhanced CEPT                                 |
| 00000040 | Switched Teleconferencing                     |
| 00000080 | CEF                                           |
| 00000100 | Enhanced DS1 Performance Monitoring           |
| 00000200 | DS0/DS1 Roll                                  |
| 00000400 | AT&T Security Warning Message                 |
| 00000800 | Nx64kbit Test Access                          |
| 00001000 | Clear 2MB/s Interface                         |
| 00002000 | TS0 to Non-TS0 Cross-connection               |
| 00004000 | 2MB/S Roll                                    |

In general a feature package identification code is a combination of several individual feature package numbers. To determine the individual features that make up a feature package it is necessary to decode the feature package identification code. This code is an eight digit hexadecimal number. Each hexadecimal number represents a four-bit binary number. Within this binary number each feature is associated with one particular bit. Consequently to determine the feature list from a feature package identification code it is necessary to convert each hexadecimal digit to its binary equivalent and look up the features in the list above. For example the feature package identification code 0000000F can be converted to the following binary number working from left to right one hex digit at a time.

0000 0000 0000 0000 0000 0000 0000 1111

This number contains eight binary numbers each representing one of the hexadecimal numbers in the feature package identification code 0000000F. The rightmost number of the code contains four features since there are four bits set to one. This would be decoded as follows using the table of features above.

|       | binary | hex | Feature                      |
|-------|--------|-----|------------------------------|
|       | 0001   | 1   | DS1                          |
|       | 0010   | 2   | CEPT                         |
|       | 0100   | 4   | Subrate                      |
|       | 1000   | 8   | Direct SLC                   |
| Total | 1111   | F   | (DS1 + CEPT + Subrate + SLC) |

**COND** - Condition

**DACSII** - Digital access and crossconnect system II

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 46** Failed to boot CONF file
- 47** Failed to boot DB
- 48** Failed to boot journal--recurrence indicates database corruption
- 49** Failed to boot unit
- 4A** SMEM error, boot from PMEM
- 4B** PMEM error, boot from SMEM
- 4C** Failed to boot CI
- 51** General boot failure (vanilla flavor)
- 18** DSPI not equipped, not in service, or failed
- 20** Software Identification Block is not readable
- 21** Software Identification Block failed comparison

**cc**    *Explanation*

- 22**    Release number mismatch
- 23**    Point number mismatch
- 24**    PDI Version number mismatch
- 4D**    MP database not consistent with Configuration file
- 52**    Database is empty
- 3F**    G4 to G4.1 retrofit failed
- 91**    Can't mount or unmount SMEM
- 92**    Can't mount or unmount PMEM

## **MOVE, FROM, END, TO**

### **MOVE MACRO LINES**

#### **Explanation Of Command**

This command is used to move one or more lines and place them after a specified line in the macro while in a macro session.

If only one line is specified, the **starting line** or **END**, then only that line is moved to **destination line**.

#### **Command**

[I.19091]

```
MOVE:FRM xy,SEQ ww:FROM {<starting line>|END}\  
[-{<ending line>|END}],TO {<destination line>|END}!
```

#### **Completion Message**

[O.19091]

```
M hh:mm:ss xy,ww n[vv] MOVE FROM {<starting line>|END}\  
[-{<ending line>|END}] TO {<destination line>|END}  COMPL
```

#### **Denial Message**

[O.19091.01]

```
M hh:mm:ss xy,ww n[vv] MOVE FROM {<starting line>|END}\  
[-{<ending line>|END}] TO {<destination line>|END}  COND cc \  
DNY
```

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**FROM** - From

#### **starting line**

- Beginning line number of a line number range (1, 2, ..., n)

Starting line indicates the first line of the group of lines to be moved.

#### **ending line**

- Ending line number of a line number range (2, 3, ..., n+1)

Ending line indicates the end line of the group of lines to be moved.

**END** - End

END is a special line number that marks the position of the last line in the macro. If END is specified in place of ending line then the lines from starting line through END will be moved to destination line.

If END is specified as destination line then the line range specified in the command will be moved, as a unit, to the line following END.

The line number associated with END will change to the new line number of the last line moved.

**TO** - To

#### **destination line**

- Destination line number for the move (0, 1, 2, ..., n)

The first line of the lines to be moved will be placed on the line following destination line.

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

**6B** Invalid line number



## **MP,STARTUP,STF,ATP**

### **STARTUP**

#### **Explanation Of Command**

This message indicates that The main processor has initialized itself, established local area network communications between itself and the communications interface or the enhanced communications interface and has performed self-diagnostics. The results of these diagnostics are reported as some tests failed or all tests passed.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01221]

**MP STARTUP {STF|ATP}**

### **Explanation Of Parameters**

---

**MP** - Main processor

**STARTUP**

- Startup

Indicates initialization

**STF** - Some tests failed

**ATP** - All tests passed

## **MTC,STF,ATP**

### **MAINTENANCE**

#### **Explanation Of Command**

This message indicates that the maintenance controller has initialized itself and has performed self-diagnostics. The results of these diagnostics are reported as some tests failed or as all tests passed passed.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01281]

**MTC {STF|ATP}**

### **Explanation Of Parameters**

---

**MTC** - Maintenance circuit

**STF** - Some tests failed

**ATP** - All tests passed

---

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## **OCNT — OVERLOAD**

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This section documents the commands **OCNT** through **OVERLOAD**.

## **OCNT, FROM, TO, MPM, CUS, INCL, RDC**

### **ONE-WAY CROSS-CONNECT TERMINATED MULTIPOINT CIRCUIT**

#### **Explanation Of Command**

This message requests a leg to be one-way terminated and cross-connected to a multipoint circuit. The terminated cross-connection means that the circuit will be set up in the terminated state with the disconnect channel code inserted in both directions of transmission. Note that for the SLC<sup>®</sup> related denial messages, "not provisioned" means not added and/or not grown.

The backbone and broadcast terminations are on the virtual NPCs.

#### **Command**

##### **Nonhierarchical**

[|.12121]

OCNT:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\  
MPM(fmd,tmd),<tc>[, {CUS|INCL}][,RDC]!

##### **Hierarchical**

[|.12121]

OCNT:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\  
MPM(fmd,tmd),<tc>[, {INCL|CUS}][,RDC]!

## **Completion Message**

---

### **Nonhierarchical**

---

[O.12121]

M hh:mm:ss xy,ww n[vv] OCNT [s]abcddd[-eee],[t]ghijjj[-kkk] \\  
2 LN MSG:  
fmd,tmd <tc>[ NOBBL {F|T}][ CUS][ RDC] COMPL

### **Hierarchical**

---

[O.12121]

M hh:mm:ss xy,ww n[vv] OCNT uvmnpddd[-eee],wxkqrjjj[-kkk] \\  
fmd,tmd <tc>[ NOBBL {F|T}][ CUS][ RDC] COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.12121.01]

M hh:mm:ss xy,ww n[vv] OCNT [s]abcddd[-eee],[t]ghijjj[-kkk] \\  
[ mmm,nnn] cc <st> DNY

[O.12121.02]

M hh:mm:ss xy,ww n[vv] OCNT [s]abcddd[-eee],[t]ghijjj[-kkk] \\  
[ mmm,nnn] d <st> DNY

### **Hierarchical**

---

[O.12121.01]

M hh:mm:ss xy,ww n[vv] OCNT uvmnpddd[-eee],wxkqrjjj[-kkk] \\  
[ mmm,nnn] cc <st> DNY

[O.12121.02]

M hh:mm:ss xy,ww n[vv] OCNT uvmnpddd[-eee],wxkqrjjj[-kkk] \\  
[ mmm,nnn] d <st> DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**FROM** - From

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number

**TO** - To

**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

DACS II Non-CEF frames support two virtual NPCs using the three digit NPC numbering scheme. The valid values for Non-CEF frames are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**961-962**

DACS II CEF frames support six virtual NPCs using either a three digit or four digit NPC numbering scheme. If NPC numbers are expressed in three digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**961-966**

If NPC numbers are expressed in four digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**9961-9966**

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical FROM NPC number

**uv, wx** - Unit number

**m, k** - Module number

**np, qr** - NPC number within the module

The valid values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

VI NPC numbers listed by unit, module, and NPC Number  
Unit Type VI (Virtual)

| Unit      | Module   | NPC                                   |
|-----------|----------|---------------------------------------|
| <b>99</b> | <b>1</b> | <b>01-02 (DACS II Non-CEF frames)</b> |
| <b>99</b> | <b>1</b> | <b>01-06 (DACS II CEF frames)</b>     |

**ddd,**  
**jjj**  
**eee,**  
**kkk**

- FROM channel numbers

- TO channel numbers denoting end of range specification

Channel numbers  
001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

Conference numbers

001-500 (Virtual NPC)

001-085 (MB NPC)



**MPM** - Multipoint mode

**fmd** - FROM mode

**tmd** - TO mode

Modes fmd and tmd set the modes of the FROM and TO ends of the circuit.  
There are three possible values of fmd and tmd:

**fmd**

**tmd**     *Explanation*

LEG     Nonvirtual circuit end of the cross-connections. Must be an FTU or DS3U channel.

BRD     Nonbackbone leg of a virtual conference. Must be a virtual NPC channel.

BBL     Backbone leg of a virtual conference. Must be a virtual NPC channel.

For OCNT multipoint circuits, there are two valid combinations for fmd and tmd:

**fmd, tmd**

(LEG,BBL) - for the backbone leg of a broadcast multipoint circuit

(BRD,LEG) - for the broadcast legs of the multipoint circuit.

**Note:** Default values for noise guard (NG) and echo suppression (ES) are applied to symmetrical bridges (multipoint mode SYM) and polling circuits (multipoint mode BBL,BRD). These default values are:

Symmetrical bridges     NG = -18 db     ES = -18 db

Polling circuits     NG = 0 db     ES = 0 db

**NOBBL** - No Backbone Leg

**F**     - From

**T**     - To

**tc**     - Trunk conditioning

Represents the desired cross-connected signaling and insertion word applied when a failure occurs. The tc options allowed are as follows:

| <i>tc</i>     | <i>Explanation</i>                         |
|---------------|--------------------------------------------|
| TRSP, TRB     | no signaling, insertion word pattern of E4 |
| TRSP, MUX     | no signaling, insertion word pattern of 1A |
| TRSP, IW X'pq | no signaling, insertion word pattern of pq |
| TRSP          | no signaling                               |

All leg connections to multipoint circuits using a virtual NPC must use TRSP signaling (no signaling). The insertion word (IW) portion is user specified and may be varied from leg to leg.

**Note:** In a gateway application, when E1 channels are connected to T1 channels, the following rules apply to the transmittal of the Insertion Word (IW) towards the facility. If the Insertion Word needs to be transmitted towards the facility as a result of consequent action, then the Insertion Word transmitted by the T1 NPC towards its transmission facility is the Insertion Word specified in this command; however, the Insertion Word transmitted by the E1 NPC towards its facility is always X'FF.

**NAM** - No A-law to  $\mu$ -law

The A-law to  $\mu$ -law and  $\mu$ -law to A-law code translators on the E1 type NPC are disabled. This keyword is valid in the following types of cross-connects:

*Multi-Point:*

E1 to E1 Multi-point cross-connects have A-law to  $\mu$ -law and  $\mu$ -law to A-law set as a default. This conversion is performed on pure E1 multi-point connections in case a DS1 leg is ever added to the broadcast connection. The **NAM** keyword is used to disable the conversions. It may be desirable to disable conversions in a pure E1 multi-point cross-connect since such a connection has more quantization noise than a pure E1 two-point cross-connect. This is due to the back to back A-law to  $\mu$ -law and  $\mu$ -law to A-law conversions which are taking place.

E1 to DS1 or DS1 to E1 Same explanation as E1 to E1.

DS1 to DS1 Not applicable.

**CUS** - Customer

The optional CUS keyword indicates a Customer Controlled Circuit. All legs on a multipoint Customer-Controlled circuit must be designated as CUS.

A disconnected termination previously marked CUS remains as a Customer Controlled termination.

**INCL** - Inclusive

The INCL keyword must be used to reconnect this termination to other terminations. However, if they are reconnected without the CUS keyword, they lose their Customer Controlled status.

**RDC** - Red circuit

If the optional RDC field is present, the circuit will be flagged as a Red Circuit. All legs on a multipoint Red Circuit must be designated RDC.

**mmm** - FROM channel number involved in the denial (ddd through eee)

**nnn** - TO channel number involved in the denial (jjj through kkk)

**d** - Direction

|   |             |
|---|-------------|
| d | Explanation |
| F | FROM        |
| T | TO          |
| B | Both        |

**st** - Status

**cc** - Hexadecimal condition code

| cc | st    | Explanation                                                           |
|----|-------|-----------------------------------------------------------------------|
| 06 | INERR | Invalid range for specified FROM NPC type                             |
| 07 | INERR | Invalid range for specified TO NPC type                               |
| 08 | INERR | Invalid FROM NPC type for AIS insertion                               |
| 09 | INERR | Invalid TO NPC type for AIS insertion                                 |
| 12 | MCOND | Active CCN side not IS or failed or pested or hardware OOS            |
| 13 | MCOND | UNIT not equipped, not in service, or failed                          |
| 14 | MCOND | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS |
| 15 | MCOND | FTMI not equipped, not in service, or failed                          |
| 16 | MCOND | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS   |
| 17 | MCOND | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS |
| 18 | MCOND | DSPI not equipped, not in service, or failed                          |
| 20 | MCOND | Line format types are incompatible                                    |
| 21 | MCOND | Trunk conditioning is invalid                                         |
| 22 | MCOND | FMC cannot be cross-connected in this format                          |
| 50 | INERR | Trunk conditioning doesn't match that of conference                   |
| 51 | INERR | CUS flag doesn't match that of conference                             |
| 52 | INERR | RDC flag doesn't match that of conference                             |

| <b>cc</b> | <b>st</b>      | <i>Explanation</i>                                                           |
|-----------|----------------|------------------------------------------------------------------------------|
| <b>70</b> | <b>CONFERR</b> | Try to add a BBL to VC, but the VC already has backbone                      |
| <b>79</b> | <b>CONFERR</b> | Try to operate a TWO-WAY conference with an ONE-WAY input command            |
| <b>80</b> | <b>CONFERR</b> | Database conference width does not match the range in input command          |
| <b>83</b> | <b>INERR</b>   | Invalid input BBL in terminated TWOWAY/ONEWAY command                        |
| <b>84</b> | <b>CONFERR</b> | Trying to add or delete a leg when a conference is under test                |
| <b>85</b> | <b>CONFERR</b> | Input BRD (BBL) has same NPC and channel as BBL (BRD)                        |
| <b>B0</b> | <b>INERR</b>   | Bad use of INCL, cannot override the current state of the conference         |
| <b>1A</b> | <b>MCOND</b>   | Required FLI not equipped, not in service, or failed                         |
| <b>1B</b> | <b>MCOND</b>   | Required MXR not equipped, not in service, or failed                         |
| <b>1C</b> | <b>MCOND</b>   | Reqd FMT not eqd, not IS, or failed, or inactive side FMT not eqd, or not IS |
| <b>1D</b> | <b>MCOND</b>   | Required MIU not equipped, not in service, or failed                         |
| <b>D0</b> | <b>SCERR</b>   | FROM NPC is not provisioned as DGA                                           |
| <b>D1</b> | <b>SCERR</b>   | TO NPC is not provisioned as DGA                                             |
| <b>D6</b> | <b>INERR</b>   | Invalid FROM channel number                                                  |
| <b>D7</b> | <b>INERR</b>   | Invalid TO channel number                                                    |
| <b>D9</b> | <b>INERR</b>   | Invalid FROM channel number range                                            |
| <b>DA</b> | <b>INERR</b>   | Invalid TO channel number range                                              |
| <b>DC</b> | <b>INERR</b>   | A loopback is active on the FROM termination                                 |
| <b>DD</b> | <b>INERR</b>   | A loopback is active on the TO termination                                   |
| <b>E0</b> | <b>SCERR</b>   | Unmatched channel range involving SLC Mode III termination                   |
| <b>E4</b> | <b>SCERR</b>   | RT-DCLU cross-connect with different ids                                     |
| <b>E5</b> | <b>SCERR</b>   | RT-DCLU cross-connect with different channel number                          |
| <b>E6</b> | <b>SCERR</b>   | Cross-connect a non Mode I channel to DCLU                                   |
| <b>E7</b> | <b>SCERR</b>   | Cross-connect a non SLC channel to DCLU                                      |
| <b>E8</b> | <b>INERR</b>   | SC invalid for cross-connection specified                                    |
| <b>E9</b> | <b>INERR</b>   | MUX or TRB invalid for cross-connection specified                            |
| <b>EA</b> | <b>INERR</b>   | AIS invalid for cross-connection specified                                   |
| <b>EB</b> | <b>INERR</b>   | NAM invalid for cross-connection specified                                   |
| <b>EC</b> | <b>INERR</b>   | Invalid channel 000 cross-connection specified                               |
| <b>ED</b> | <b>INERR</b>   | Invalid channel 031 cross-connection specified                               |
| <b>FF</b> | <b>ROLL</b>    | Termination is in process of being rolled                                    |

| st   | d       | Explanation                 |
|------|---------|-----------------------------|
| ASGN | {F T B} | Termination assigned        |
| CUS  | {F T B} | Customer-controlled Circuit |
| FAIL | {F T B} | Failed                      |
| OOS  | {F T B} | Out-of-service              |
| RDC  | {F T B} | Red Circuit                 |
| TG   | {F T B} |                             |
| TP   | {F T B} | NPC is used for test access |
| UEQD | {F T B} | Unequipped                  |
| UTST | {F T B} | Under Test                  |

## **OCNT, FROM, TO, RDC, CUS, INCL, PRIOUT**

### **ONE-WAY CROSS-CONNECTION TERMINATE**

#### **Explanation Of Command**

This message requests the connection of a one-way terminated circuit or a range of one-way terminated circuits. The circuit(s) will be formed with the disconnect code (DCC) inserted in the direction of transmission unless the trunk conditioning specification TRSP, MUX has been used; in this case, the unassigned multiplex code (UMC = X'18) is inserted.

#### **⇒ NOTE:**

For denial messages related to the SLC<sup>®</sup> carrier, "not provisioned" means not added and/or not grown.

#### **⇒ NOTE:**

For the Gateway application, cross-connection of a CEPT channel to the 24th channel of a T1DM DS1 is not allowed.

#### **Command**

#### **Nonhierarchical**

[I.12101]

OCNT:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\  
,<tc>[,RDC][,{CUS|INCL}][,PRIOUT]!

### **Hierarchical**

---

[I.12101]

OCNT:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\  
<tc>[,RDC][,{CUS|INCL}][,PRIOUT]!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.12101]

M hh:mm:ss xy,ww n[vv] OCNT [s]abcdddd[-eee],[t]ghijjj[-kkk]\  
<tc>[ RDC][ CUS][ PRIOUT] COMPL

[O.12102]

M hh:mm:ss xy,ww n[vv] OCNT [s]abcdddd[-eee],[t]ghijjj[-kkk] \  
2 LN MSG:  
<tc> [RDC ][CUS ][PRIOUT ]COMPL

### **Hierarchical**

---

[O.12101]

M hh:mm:ss xy,ww n[vv] OCNT uvmnp[-eee],wxkqrjjj[-kkk] \  
<tc>[ RDC][ CUS][ PRIOUT] COMPL

[O.12102]

M hh:mm:ss xy,ww n[vv] OCNT uvmnpddd[-eee],wxkqrjjj[-kkk] \  
2 LN MSG:  
<tc> [RDC ][CUS ][PRIOUT ]COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.12101.01]

M hh:mm:ss xy,ww n[vv] OCNT [s]abcdddd[-eee],[t]ghijjj[-kkk]\  
[ mmm,nnn] cc <st> DNY

[O.12101.02]

M hh:mm:ss xy,ww n[vv] OCNT [s]abcddd[-eee],[t]ghijjj[-kkk]\  
[ mmm,nnn] d <st> DNY

### Hierarchical

[O.12101.01]

M hh:mm:ss xy,ww n[vv] OCNT uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ mmm,nnn] d <st> DNY

[O.12101.02]

M hh:mm:ss xy,ww n[vv] OCNT uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ mmm,nnn] d <st> DNY

### Autonomous Message

Not applicable.

### Explanation Of Parameters

**FROM** - From

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number

**TO** -To

**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |



If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                | Unit<br>2                | Unit<br>3                | Unit<br>4                |
|--------------------------|--------------------------|--------------------------|--------------------------|
| <b>NPC<br/>0001-0160</b> | <b>NPC<br/>0161-0320</b> | <b>NPC<br/>0321-0480</b> | <b>NPC<br/>0481-0640</b> |
| Unit<br>5                | Unit<br>6                | Unit<br>7                | Unit<br>8                |
| <b>NPC<br/>0641-0800</b> | <b>NPC<br/>0801-0960</b> | <b>NPC<br/>0961-1120</b> | <b>NPC<br/>1121-1280</b> |
| Unit<br>9                | Unit<br>10               | Unit<br>11               | Unit<br>12               |
| <b>NPC<br/>1281-1440</b> | <b>NPC<br/>1441-1600</b> | <b>NPC<br/>1601-1760</b> | <b>NPC<br/>1761-1920</b> |
| Unit<br>13               | Unit<br>14               | Unit<br>15               | Unit<br>16               |
| <b>NPC<br/>1921-2080</b> | <b>NPC<br/>2081-2240</b> | <b>NPC<br/>2241-2400</b> | <b>NPC<br/>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1              | Unit<br>2              | Unit<br>3              | Unit<br>4              | Unit<br>5              | Unit<br>6              |
|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| <b>NPC<br/>001-160</b> | <b>NPC<br/>161-320</b> | <b>NPC<br/>321-480</b> | <b>NPC<br/>481-640</b> | <b>NPC<br/>641-800</b> | <b>NPC<br/>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                | Unit<br>2                | Unit<br>3                | Unit<br>4                |
|--------------------------|--------------------------|--------------------------|--------------------------|
| <b>NPC<br/>0001-0160</b> | <b>NPC<br/>0161-0320</b> | <b>NPC<br/>0321-0480</b> | <b>NPC<br/>0481-0640</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |

|                  |                  |                  |                  |
|------------------|------------------|------------------|------------------|
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                |                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|----------------|
| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                  |                  |                  |                  |
|------------------|------------------|------------------|------------------|
| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number  
**wxkqr** - Hierarchical TO NPC number

**uv, wx** - Unit number  
**m, k** - Module number  
**np, qr** - NPC number within the module

The values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd,**  
**jjj** - Channel numbers, denoting the beginning of a range  
**eee,**  
**kkk** - Channel numbers, denoting the end of a range

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

The Facility Data Link (FDL) channel 000 is not allowed in a range.  
Only the FDL of DE type NPC with ESF Format can be cross-connected.

**tc** - Trunk conditioning specification

This specifies the signaling and insertion word to be applied to the cross-connection when a failure occurs. In the input command the signaling and insertion word specifications are entered separately, with a comma as the delimiter. An example of tc is "TC(----,mnop),TRB".  
The following signaling options are allowed:

| <i>signaling</i>   | <i>Explanation</i>                                                                                                                                                             |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TC(----,mnop)      | One-way, 4-state signaling in binary. For ESF type framing format, software will expand 4-state to 16-state by duplicating the format on the remaining frames on a superframe. |
| TC(-----,mnopqrst) | One-way, 16-state signaling in binary. Only valid for ESF framing formats                                                                                                      |
| TC(X'--,X'cd)      | One-way, 16-state signaling in hexadecimal                                                                                                                                     |
| TRSP               | Transparent, no signaling                                                                                                                                                      |

The following insertion word options are allowed:

| <i>insertion word</i> | <i>Explanation</i>                                                                                                                      |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| IW X'pq               | The 8-bit pattern corresponding to the hexadecimal value of pq will be inserted in the downstream direction of a failure on either line |
| TRB                   | Standard trouble code, equal to IW X'E4.                                                                                                |
| MUX                   | MUX out of sync code, equal to IW X'1A.                                                                                                 |

**Note:** In a gateway application, when E1 channels are connected to T1 channels, the following rules apply to the transmittal of the Insertion Word (IW) towards the facility. If the Insertion Word needs to be transmitted towards the facility as a result of consequent action, then the Insertion Word transmitted by the T1 NPC towards its transmission facility is the Insertion Word specified in this command; however, the Insertion Word transmitted by the E1 NPC towards its facility is always X'FF.

**CUS** - Customer

The circuit will be flagged as a customer controlled circuit.

**RDC** - Red circuit

**INCL** - Inclusive

A termination designated as CUS or RDC cannot be disconnected or modified without using the INCL keyword in the message. Also, an NPC which supports these circuits cannot be manually removed unless the INCL keyword is given in the remove message.

**PRIOUT** - Priority Output

This keyword is used on the command line to prioritize the output response.

**mmm** - FROM channel number involved in the denial (ddd through eee)

**nnn** - TO channel number involved in the denial (jjj through kkk)

**d** - Direction

| d | Explanation |
|---|-------------|
| F | From        |
| T | To          |
| B | Both        |

**st** - Status

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                        |
|-----------|--------------|---------------------------------------------------------------------------|
| <b>06</b> | <b>INERR</b> | Invalid range for specified FROM NPC type                                 |
| <b>07</b> | <b>INERR</b> | Invalid range for specified TO NPC type                                   |
| <b>08</b> | <b>INERR</b> | Invalid FROM NPC type for AIS insertion                                   |
| <b>09</b> | <b>INERR</b> | Invalid TO NPC type for AIS insertion                                     |
| <b>12</b> | <b>MCOND</b> | Active CCN side not IS or failed or pested or hardware OOS                |
| <b>13</b> | <b>MCOND</b> | UNIT not equipped, not in service, or failed                              |
| <b>14</b> | <b>MCOND</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS     |
| <b>15</b> | <b>MCOND</b> | FTMI not equipped, not in service, or failed                              |
| <b>16</b> | <b>MCOND</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS       |
| <b>17</b> | <b>MCOND</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS     |
| <b>20</b> | <b>MCOND</b> | Line format types are incompatible                                        |
| <b>21</b> | <b>MCOND</b> | Trunk conditioning is invalid                                             |
| <b>22</b> | <b>MCOND</b> | FMC cannot be cross-connected in this format                              |
| <b>1A</b> | <b>MCOND</b> | Required FLI not equipped, not in service, or failed                      |
| <b>1B</b> | <b>MCOND</b> | Required MXR not equipped, not in service, or failed                      |
| <b>1C</b> | <b>MCOND</b> | Reqd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS |
| <b>1D</b> | <b>MCOND</b> | Required MIU not equipped, not in service, or failed                      |
| <b>D0</b> | <b>SCERR</b> | FROM NPC is not provisioned as DGA                                        |
| <b>D1</b> | <b>SCERR</b> | TO NPC is not provisioned as DGA                                          |
| <b>D6</b> | <b>INERR</b> | Invalid FROM channel number                                               |
| <b>D7</b> | <b>INERR</b> | Invalid TO channel number                                                 |
| <b>D9</b> | <b>INERR</b> | Invalid FROM channel number range                                         |
| <b>DA</b> | <b>INERR</b> | Invalid TO channel number range                                           |
| <b>DC</b> | <b>INERR</b> | A loopback is active on the FROM termination                              |
| <b>DD</b> | <b>INERR</b> | A loopback is active on the TO termination                                |
| <b>DF</b> | <b>INERR</b> | Unmatched channel range                                                   |
| <b>E0</b> | <b>SCERR</b> | Unmatched channel range involving SLC Mode III termination                |
| <b>E2</b> | <b>INERR</b> | Attempt to one way cross-connect a locally switched channel               |
| <b>E4</b> | <b>SCERR</b> | RT-DCLU cross-connect with different ids                                  |
| <b>E5</b> | <b>SCERR</b> | RT-DCLU cross-connect with different channel number                       |
| <b>E6</b> | <b>SCERR</b> | Cross-connect a non Mode I channel to DCLU                                |
| <b>E7</b> | <b>SCERR</b> | Cross-connect a non SLC channel to DCLU                                   |
| <b>E8</b> | <b>INERR</b> | SC invalid for cross-connection specified                                 |
| <b>E9</b> | <b>INERR</b> | MUX or TRB invalid for cross-connection specified                         |
| <b>EA</b> | <b>INERR</b> | AIS invalid for cross-connection specified                                |
| <b>EB</b> | <b>INERR</b> | NAM invalid for cross-connection specified                                |
| <b>EC</b> | <b>INERR</b> | Invalid channel 000 cross-connection specified                            |
| <b>ED</b> | <b>INERR</b> | Invalid channel 031 cross-connection specified                            |
| <b>FF</b> | <b>ROLL</b>  | Termination is in process of being rolled                                 |

| <b>cc</b>   | <b>st</b>      | <i>Explanation</i>            |
|-------------|----------------|-------------------------------|
| <b>st</b>   | <b>d</b>       | <i>Explanation</i>            |
| <b>ASGN</b> | <b>{F T B}</b> | Termination assigned          |
| <b>CUS</b>  | <b>{F T B}</b> | Customer-controlled Circuit   |
| <b>FAIL</b> | <b>{F T B}</b> | Failed                        |
| <b>OOS</b>  | <b>{F T B}</b> | Out-of-service                |
| <b>RDC</b>  | <b>{F T B}</b> | Red Circuit                   |
| <b>ROLL</b> | <b>{F T B}</b> | Circuit is involved in a roll |
| <b>TG</b>   | <b>{F T B}</b> | NPC is grown as a test group  |
| <b>TP</b>   | <b>{F T B}</b> | NPC is used for test access   |
| <b>UEQD</b> | <b>{F T B}</b> | Unequipped                    |
| <b>UTST</b> | <b>{F T B}</b> | Under Test                    |



## **OCNT, FROM, TO, RDC, CUS, INCL, PRIOUT**

### **TERMINATED ONE-WAY CROSS CONNECT**

#### **Explanation Of Command**

This message terminates one-way cross-connections of non-channelized network processing circuits (NPCs). The alarm-indication signal (AIS) is the idle code and does not need to be entered. Trunk condition options for 64 kbit/s cross-connections are not allowed for non-channelized connections. When a failure occurs or during an alarm state, the AIS is transmitted toward the TO NPC.

#### **Command**

##### **Nonhierarchical**

[|.12131]

OCNT:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC]\  
[, {CUS|INCL}][,PRIOUT]!

##### **Hierarchical**

[|.12131]

OCNT:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC]\  
[, {CUS|INCL}][,PRIOUT]!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.12131]

M hh:mm:ss xy,ww n[vv] OCNT [s]abc,[t]ghi[ RDC]\  
[ {CUS|INCL}][ PRIOUT] COMPL

#### **Hierarchical**

---

[O.12131]

M hh:mm:ss xy,ww n[vv] OCNT uvmnp,wxkqr[ RDC]\  
[ {CUS|INCL}][ PRIOUT] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.12131.01]

M hh:mm:ss xy,ww n[vv] OCNT [s]abc,[t]ghi cc <st> DNY

[O.12131.02]

M hh:mm:ss xy,ww n[vv] OCNT [s]abc,[t]ghi d <st> DNY

#### **Hierarchical**

---

[O.12131.01]

M hh:mm:ss xy,ww n[vv] OCNT uvmnp,wxkqr cc <st> DNY

[O.12131.02]

M hh:mm:ss xy,ww n[vv] OCNT uvmnp,wxkqr d <st> DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**FROM** - From

**[s]abc** - The 3- or 4-digit non-hierarchical non-channelized FROM NPC number

**TO** - To

**[t]ghi** - The 3- or 4-digit non-hierarchical non-channelized TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**uv, wx** - Unit number

**m, k** - Module number

**np, qr** - NPC number

The valid values are listed below:

DE and DA type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**RDC** - Red circuit

**CUS** - Customer

Customer-controller circuit

**INCL** - Inclusive

Inclusive option will remove CUS marking

**PRIOUT** - Priority Output

This keyword is used on the command line to prioritize the output response.

**st** - Status of denial

**d** - Direction

| <b>d</b> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|   |      |
|---|------|
| F | From |
|---|------|

|   |    |
|---|----|
| T | To |
|---|----|

|   |      |
|---|------|
| B | Both |
|---|------|

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b> | <i>Explanation</i> |
|-----------|-----------|--------------------|
|-----------|-----------|--------------------|

|           |              |                                              |
|-----------|--------------|----------------------------------------------|
| <b>04</b> | <b>INERR</b> | No NPC's out of service and OOS keyword used |
|-----------|--------------|----------------------------------------------|

|           |              |                                                            |
|-----------|--------------|------------------------------------------------------------|
| <b>12</b> | <b>MCOND</b> | Active CCN side not IS or failed or pested or hardware OOS |
|-----------|--------------|------------------------------------------------------------|

|           |              |                                              |
|-----------|--------------|----------------------------------------------|
| <b>13</b> | <b>MCOND</b> | UNIT not equipped, not in service, or failed |
|-----------|--------------|----------------------------------------------|

|           |              |                                                                       |
|-----------|--------------|-----------------------------------------------------------------------|
| <b>14</b> | <b>MCOND</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS |
|-----------|--------------|-----------------------------------------------------------------------|

|           |              |                                              |
|-----------|--------------|----------------------------------------------|
| <b>15</b> | <b>MCOND</b> | FTMI not equipped, not in service, or failed |
|-----------|--------------|----------------------------------------------|

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                        |
|-----------|--------------|---------------------------------------------------------------------------|
| <b>16</b> | <b>MCOND</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS       |
| <b>17</b> | <b>MCOND</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS     |
| <b>1A</b> | <b>MCOND</b> | Required FLI not equipped, not in service, or failed                      |
| <b>1B</b> | <b>MCOND</b> | Required MXR not equipped, not in service, or failed                      |
| <b>1C</b> | <b>MCOND</b> | Reqd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS |
| <b>1D</b> | <b>MCOND</b> | Required MIU not equipped, not in service, or failed                      |
| <b>FF</b> | <b>ROLL</b>  | Termination is in process of being rolled                                 |

| <b>st</b>    | <b>d</b>       | <i>Explanation</i>          |
|--------------|----------------|-----------------------------|
| <b>ASGN</b>  | <b>{F T B}</b> | Termination assigned        |
| <b>CUS</b>   | <b>{F T B}</b> | Customer-controlled Circuit |
| <b>FAIL</b>  | <b>{F T B}</b> | Failed                      |
| <b>INVLD</b> | <b>{F T B}</b> | Invalid NPC type            |
| <b>NPCTA</b> | <b>{F T B}</b> | NPC used for Test Access    |
| <b>OOS</b>   | <b>{F T B}</b> | Out-of-service              |
| <b>RDC</b>   | <b>{F T B}</b> | Red Circuit                 |
| <b>UEQD</b>  | <b>{F T B}</b> | Unequipped                  |
| <b>UTST</b>  | <b>{F T B}</b> | Under Test                  |

## OCON, FROM, TO, MPM, CUS, INCL, RDC

### ONE WAY CROSS-CONNECTIONS

#### Explanation Of Command

This message requests a one-way cross-connection from the specified FROM termination(s) and to the TO termination. It is used to construct a one-way multipoint circuit. The backbone and broadcast terminations are on the virtual NPCs.

#### Command

##### Nonhierarchical

[I.11121]

```
OCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\  
MPM(fmd,tmd),<tc>[, {CUS|INCL}][,RDC]!
```

##### Hierarchical

[I.11121]

```
OCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\  
MPM(fmd,tmd),<tc>[, {INCL|CUS}][,RDC]!
```

#### Completion Message

##### Nonhierarchical

[O.11121]

```
M hh:mm:ss xy,ww n[vv] OCON [s]abcddd[-eee],[t]ghijjj[-kkk] \  
2 LN MSG:  
fmd,tmd <tc>[ NOBBL {F|T}][ CUS][ RDC][ NAM] COMPL
```

### **Hierarchical**

---

[O.11121]

M hh:mm:ss xy,ww n[vv] OCON uvmnpddd[-eee],wxkqrjjj[-kkk] \\  
2 LN MSG:  
fmd,tmd <tc>[ NOBBL {F|T}][ CUS][ RDC][ NAM] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.11121.01]

M hh:mm:ss xy,ww n[vv] OCON [s]abcdddd[-eee],[t]ghijjj[-kkk] \\  
[ mmm,jjj] cc <st> DNY

[O.11121.02]

M hh:mm:ss xy,ww n[vv] OCON [s]abcdddd[-eee],[t]ghijjj[-kkk] \\  
[ mmm,jjj] d <st> DNY

### **Hierarchical**

---

[O.11121.01]

M hh:mm:ss xy,ww n[vv] OCON uvmnpddd[-eee],wxkqrjjj[-kkk] \\  
[ mmm,jjj] cc <st> DNY

[O.11121.02]

M hh:mm:ss xy,ww n[vv] OCON uvmnpddd[-eee],wxkqrjjj[-kkk] \\  
[ mmm,jjj] d <st> DNY

### **Autonomous Message**

---

Not applicable.



## Explanation Of Parameters

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number

**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

DACS II Non-CEF frames support two virtual NPCs using the three digit NPC numbering scheme. The valid values for Non-CEF frames are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**961-962**

DACS II CEF frames support six virtual NPCs using either a three digit or four digit NPC numbering scheme. If NPC numbers are expressed in three digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**961-966**

If NPC numbers are expressed in four digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**9961-9966**

**uvmp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**uv, wx** - Unit number

**m, k** - Module number

**np, qr** - NPC number within the module

The values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

VI NPC numbers listed by unit, module, and NPC Number  
Unit Type VI (Virtual)

|           |          |              |                                 |
|-----------|----------|--------------|---------------------------------|
| Unit      | Module   | NPC          |                                 |
| <b>99</b> | <b>1</b> | <b>01-02</b> | <b>(DACS II Non-CEF frames)</b> |
| <b>99</b> | <b>1</b> | <b>01-06</b> | <b>(DACS II CEF frames)</b>     |

**ddd,**  
**jjj**  
**eee,**  
**kkk**

- Channel numbers

- Channel numbers denoting the end of a range specification

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

001-500 (Virtual NPC)

**Note:** Range values -eee, -kkk apply only to the FTU/DS3U end of an FTU/DS3U Virtual NPC circuit, that is, they cannot apply to the Virtual NPC end of the circuit.

**MPM** - Multipoint mode

**fmd** - FROM mode

**tmd** - TO mode

Multipoint modes of the FROM and TO ends of the circuit

|            |                                                                           |
|------------|---------------------------------------------------------------------------|
| <i>fmd</i> |                                                                           |
| tmd        | Explanation                                                               |
| LEG        | Non-VI circuit end of the cross connections. Must be an FTU/DS3U channel. |
| BRD        | Nonbackbone leg of a virtual conference. Must be a virtual NPC channel.   |
| BBL        | Backbone leg of a virtual conference. Must be a Virtual NPC channel.      |

For OCON multipoint circuits, there are two valid combinations for fmd and tmd:

|         |                                                        |
|---------|--------------------------------------------------------|
| fmd,tmd | Explanation                                            |
| LEG,BBL | For the backbone leg of a broadcast multipoint circuit |
| BRD,LEG | For the broadcast legs of the multipoint circuit.      |

**Note:** Default values for noise guard (NG) and echo suppression (ES) are applied to symmetrical bridges (multipoint mode SYM) and polling circuits (multipoint mode BBL,BRD). These default values are:

|                     |            |            |
|---------------------|------------|------------|
| Symmetrical bridges | NG = -18db | ES = -18db |
| Polling circuits    | NG = 0db   | ES = 0db   |

**tc** - Trunk conditioning

Represents the desired cross-connected signaling and insertion word applied when a failure occurs. The signaling and insertion word specification are entered separately, with a comma as the delimiter.

The following signaling option is allowed:

|           |                            |
|-----------|----------------------------|
| <i>tc</i> | <i>Explanation</i>         |
| TRSP      | Transparent, no signaling. |

The following insertion word options are allowed:

|           |                                                                                                                                          |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------|
| <i>IW</i> | <i>Explanation</i>                                                                                                                       |
| IW X'pq   | The 8-bit pattern corresponding to the hexadecimal value of pq will be inserted in the downstream direction of a failure on either line. |
| TRB       | Standard trouble code, equal to IW X'E4, not valid for CEPT.                                                                             |
| MUX       | MUX out of sync code, equal to IW X'1A, not valid for CEPT.                                                                              |
| Omitted   | Only valid for CEPT, will default to IW-X-FF.                                                                                            |

**NOBBL** - No backbone leg

**F** - From

**T** - To

**IW** - Insertion word

The insertion word is provided with the DCC option, an 8-bit pattern that is inserted in the specified time slot when the circuit is disconnected.

During the alarm state, AIS (all ones) is sent out in the specified time slot.

All leg connections to multipoint circuits using a Virtual NPC must use TRSP signaling (no signaling). The insertion word portion is user specified as noted above and may be varied from leg to leg.

**Note:** In a gateway application, when E1 channels are connected to T1 channels, the following rules apply to the transmittal of the Insertion Word (IW) towards the facility. If the Insertion Word needs to be transmitted towards the facility as a result of consequent action, then the Insertion Word transmitted by the T1 NPC towards its transmission facility is the Insertion Word specified in this command; however, the Insertion Word transmitted by the E1 NPC towards its facility is always X'FF.

**NAM** - No A-law to  $\mu$ -law

The A-law to  $\mu$ -law and  $\mu$ -law to A-law code translators on the E1 type NPC are disabled. This keyword is valid in the following types of cross-connects:

*Multi-Point:*

**E1 to E1** Multi-point cross-connects have A-law to  $\mu$ -law and  $\mu$ -law to A-law set as a default. This conversion is performed on pure E1 multi-point connections in case a DS1 leg is ever added to the broadcast connection. The **NAM** keyword is used to disable the conversions. It may be desirable to disable conversions in a pure E1 multi-point cross-connect since such a connection has more quantization noise than a pure E1 two-point cross-connect. This is due to the back to back A-law to  $\mu$ -law and  $\mu$ -law to A-law conversions which are taking place.

**E1 to DS1 or DS1 to E1** Same explanation as E1 to E1.

**DS1 to DS1** Not applicable.

**CUS** - Customer

Customer-controlled circuit

The optional CUS field indicates a customer controlled circuit. All legs on a multipoint customer-controlled circuit must be designated CUS.

**INCL** - Inclusive

A disconnected termination previously marked CUS remains as a customer controlled termination. The INCL keyword must be used to reconnect this termination to other terminations. However, if they are reconnected without the CUS keyword, they lose their customer controlled status.

**RDC** - Red circuit

All legs on a multipoint red circuit must be designated RDC.

ddd, jjj - Channel numbers

mmm - FROM channel number involved in the denial ( $ddd \leq mmm \leq eee$ )

st - Status

d - Direction (F = From, T = To, B = Both)

cc - Hexadecimal condition code

| cc | st    | Explanation                                                           |
|----|-------|-----------------------------------------------------------------------|
| 06 | INERR | Invalid range for specified FROM NPC type                             |
| 07 | INERR | Invalid range for specified TO NPC type                               |
| 08 | INERR | Invalid FROM NPC type for AIS insertion                               |
| 09 | INERR | Invalid TO NPC type for AIS insertion                                 |
| 12 | MCOND | Active CCN side not IS or failed or pested or hardware OOS            |
| 13 | MCOND | UNIT not equipped, not in service, or failed                          |
| 14 | MCOND | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS |
| 15 | MCOND | FTMI not equipped, not in service, or failed                          |
| 16 | MCOND | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS   |
| 17 | MCOND | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS |
| 18 | MCOND | DSPI not equipped, not in service, or failed                          |
| 20 | MCOND | Line format types are incompatible                                    |
| 21 | INERR | Trunk conditioning is invalid                                         |
| 22 | MCOND | FMC cannot be cross-connected in this format                          |
| 50 | INERR | Trunk conditioning doesn't match that of conference                   |
| 51 | INERR | CUS flag doesn't match that of conference                             |
| 52 | INERR | RDC flag doesn't match that of conference                             |

| <b>cc</b> | <b>st</b>      | <i>Explanation</i>                                                           |
|-----------|----------------|------------------------------------------------------------------------------|
| <b>70</b> | <b>CONFERR</b> | Try to add a BBL to VC, but the VC already has backbone                      |
| <b>79</b> | <b>CONFERR</b> | Try to operate a TWO-WAY conference with an ONE-WAY input command            |
| <b>80</b> | <b>CONFERR</b> | Database conference width does not match the range in input command          |
| <b>84</b> | <b>CONFERR</b> | Trying to add or delete a leg when a conference is under test                |
| <b>85</b> | <b>CONFERR</b> | Input BRD (BBL) has same NPC and channel as BBL (BRD)                        |
| <b>B0</b> | <b>INERR</b>   | Bad use of INCL, cannot override the current state of the conference         |
| <b>1A</b> | <b>MCOND</b>   | Required FLI not equipped, not in service, or failed                         |
| <b>1B</b> | <b>MCOND</b>   | Required MXR not equipped, not in service, or failed                         |
| <b>1C</b> | <b>MCOND</b>   | Reqd FMT not eqd, not IS, or failed, or inactive side FMT not eqd, or not IS |
| <b>1D</b> | <b>MCOND</b>   | Required MIU not equipped, not in service, or failed                         |
| <b>D0</b> | <b>SCERR</b>   | FROM NPC is not provisioned as DGA                                           |
| <b>D1</b> | <b>SCERR</b>   | TO NPC is not provisioned as DGA                                             |
| <b>D6</b> | <b>INERR</b>   | Invalid FROM channel number                                                  |
| <b>D7</b> | <b>INERR</b>   | Invalid TO channel number                                                    |
| <b>D9</b> | <b>INERR</b>   | Invalid FROM channel number range                                            |
| <b>DA</b> | <b>INERR</b>   | Invalid TO channel number range                                              |
| <b>DC</b> | <b>INERR</b>   | A loopback is active on the FROM termination                                 |
| <b>DD</b> | <b>INERR</b>   | A loopback is active on the TO termination                                   |
| <b>E0</b> | <b>SCERR</b>   | Unmatched channel range involving SLC Mode III termination                   |
| <b>E4</b> | <b>SCERR</b>   | RT-DCLU cross-connect with different ids                                     |
| <b>E5</b> | <b>SCERR</b>   | RT-DCLU cross-connect with different channel number                          |
| <b>E6</b> | <b>SCERR</b>   | Cross-connect a non Mode I channel to DCLU                                   |
| <b>E7</b> | <b>SCERR</b>   | Cross-connect a non SLC channel to DCLU                                      |
| <b>E8</b> | <b>INERR</b>   | SC invalid for cross-connection specified                                    |
| <b>E9</b> | <b>INERR</b>   | MUX or TRB invalid for cross-connection specified                            |
| <b>EA</b> | <b>INERR</b>   | AIS invalid for cross-connection specified                                   |
| <b>EB</b> | <b>INERR</b>   | NAM invalid for cross-connection specified                                   |
| <b>EC</b> | <b>INERR</b>   | Invalid channel 000 cross-connection specified                               |
| <b>ED</b> | <b>INERR</b>   | Invalid channel 031 cross-connection specified                               |
| <b>FF</b> | <b>ROLL</b>    | Termination is in process of being rolled                                    |



| st   | d       | Explanation                   |
|------|---------|-------------------------------|
| ASGN | {F T B} | Termination assigned          |
| CUS  | {F T B} | Customer-controlled Circuit   |
| FAIL | {F T B} | Failed                        |
| OOS  | {F T B} | Out-of-service                |
| RDC  | {F T B} | Red Circuit                   |
| ROLL | {F T B} | Circuit is involved in a roll |
| TG   | {F T B} |                               |
| TP   | {F T B} | NPC is used for test access   |
| UEQD | {F T B} | Unequipped                    |
| UTST | {F T B} | Under Test                    |

## **OCN,FRM,TO,RDC,CUS,INCL,PRIOUT**

### **ONE WAY CROSS-CONNECTIONS**

#### **Explanation Of Command**

This message requests the connection of a one-way cross-connect circuit or a range of one-way circuits.

#### **Command**

##### **Nonhierarchical**

[I.11101]

OCN:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\  
<tc>[,RDC][{,CUS|,INCL}][,PRIOUT]!

##### **Hierarchical**

[I.11101]

OCN:FRM xy,SEQ ww:FROM uvmpddd[-eee],TO wxqrrjjj[-kkk],\  
<tc>[,RDC][{,CUS|,INCL}][,PRIOUT]!

#### **Completion Message**

##### **Nonhierarchical**

[O.11101]

M hh:mm:ss xy,ww n[vv] OCN [s]abcddd[-eee],[t]ghijjj[-kkk] \  
<tc>[ RDC][ {CUS|INCL}][ PRIOUT] COMPL

[O.11102]

M hh:mm:ss xy,ww n[vv] OCON [s]abcddd[-eee],[t]ghijjj[-kkk] \  
2 LN MSG:  
<tc>[ RDC][ {CUS|INCL}][ PRIOUT] COMPL

### **Hierarchical**

---

[O.11101]

M hh:mm:ss xy,ww n[vv] OCON uvmnp[-eee],wxkqrjjj[-kkk] \  
<tc>[ RDC][ {CUS|INCL}][ PRIOUT] COMPL

[O.11102]

M hh:mm:ss xy,ww n[vv] OCON uvmnpddd[-eee],wxkqrjjj[-kkk] \  
2 LN MSG:  
<tc>[ RDC][ {CUS|INCL}][ PRIOUT] COMPL

### **Denial Message**

---

### **Nonhierarchical**

---

[O.11101.01]

M hh:mm:ss xy,ww n[vv] OCON [s]abcddd[-eee],[t]ghijjj[-kkk]\  
[ mmm,nnn] cc <st> DNY

[O.11101.02]

M hh:mm:ss xy,ww n[vv] OCON [s]abcddd[-eee],[t]ghijjj[-kkk]\  
[ mmm,nnn] d <st> DNY

### **Hierarchical**

---

[O.11101.01]

M hh:mm:ss xy,ww n[vv] OCON uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ mmm,nnn] cc <st> DNY

[O.11101.02]

M hh:mm:ss xy,ww n[vv] OCON uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ mmm,nnn] d <st> DNY

### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number

**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |
| <b>16A-16H</b>               | <b>32A-32H</b>               | <b>48A-48H</b>               | <b>64A-64H</b>               | <b>80A-80H</b>               | <b>96A-96H</b>               |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**uv, wx** - Unit number

**m, k** - Module number

**np, qr** - NPC number within the module

DE and DS type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd,**  
**jjj** - Channel numbers

**eee,**  
**kkk** - Channel numbers denoting the end of a range

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

The Facility Data Link (FDL) channel 000 is not allowed in a range.  
Only the FDL of DE type NPC with ESF Format can be cross-connected.

**tc** - Trunk conditioning

tc represents the desired cross-connected signaling and insertion word applied when a failure occurs. The signaling and the insertion word specification are entered separately, with a comma as the delimiter. The following signaling options are allowed:



| <i>tc</i>          | <i>Explanation</i>                                                                                                                                                           |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TC(----,mnop)      | 1-way, 4-state signaling in binary. For ESF type framing format, software will expand 4-state to 16-state by duplicating the format on the remaining frames on a superframe. |
| TC(-----,mnopqrst) | 1-way, 16-state in binary. Only valid for ESF framing formats.                                                                                                               |
| TC(X'--,X'cd)      | 1-way, 16-state in hexadecimal.                                                                                                                                              |
| TRSP               | Transparent, no signaling.                                                                                                                                                   |

If the channel being connected is a Facility Data Link (FDL), then ddd (jjj) is 000 and signaling type should be of type TC(ijkl,mnop).

The following insertion word options are allowed:

| <i>IW</i> | <i>Explanation</i>                                                                                                                    |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------|
| IW X'pq   | The 8-bit pattern corresponding to the hexadecimal value of pq will be inserted to the downstream direction of a failure on the line. |
| TRB       | Standard trouble code, equal to IW X'E4.                                                                                              |
| MUX       | MUX out of sync code, equal to IW X'1A.                                                                                               |

**Note:** In a gateway application, when E1 channels are connected to T1 channels, the following rules apply to the transmittal of the Insertion Word (IW) towards the facility. If the Insertion Word needs to be transmitted towards the facility as a result of consequent action, then the Insertion Word transmitted by the T1 NPC towards its transmission facility is the Insertion Word specified in this command; however, the Insertion Word transmitted by the E1 NPC towards its facility is always X'FF.

|            |                                                              |
|------------|--------------------------------------------------------------|
| <b>CUS</b> | - Customer<br>Used to indicate a customer-controlled circuit |
| <b>RDC</b> | - Red circuit                                                |

**INCL** - Inclusive

A termination designated as customer controlled or a red circuit cannot be disconnected or modified without using the INCL keyword in the message. Also, an NPC which supports these circuits cannot be manually removed unless the inclusive keyword is given in the remove message.

**PRIOUT** - Priority Output

This keyword is used on the command line to prioritize the output response.

**mmm** - FROM channel number involved in the denial (ddd through eee)

**nnn** - TO channel number involved in the denial (jjj through kkk)

**st** - Status of denial

**d** - Direction

*d Explanation*

F From

T To

B Both

**cc** - Hexadecimal condition code

*cc st Explanation*

**06 INERR** Invalid range for specified FROM NPC type

**07 INERR** Invalid range for specified TO NPC type

**08 INERR** Invalid FROM NPC type for AIS insertion

**09 INERR** Invalid TO NPC type for AIS insertion

**12 MCOND** Active CCN side not IS or failed or pested or hardware OOS

**13 MCOND** UNIT not equipped, not in service, or failed

**14 MCOND** CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS

**15 MCOND** FTMI not equipped, not in service, or failed

**16 MCOND** FC not eqd, not IS, or failed or inactive side FC not eqd or not IS

**17 MCOND** TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS

**20 MCOND** Line format types are incompatible

**21 MCOND** Trunk conditioning is invalid

**22 MCOND** FMC cannot be cross-connected in this format

**1A MCOND** Required FLI not equipped, not in service, or failed

**1B MCOND** Required MXR not equipped, not in service, or failed

**1C MCOND** Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                          |
|-----------|--------------|-------------------------------------------------------------|
| <b>1D</b> | <b>MCOND</b> | Required MIU not equipped, not in service, or failed        |
| <b>D0</b> | <b>SCERR</b> | FROM NPC is not provisioned as DGA                          |
| <b>D1</b> | <b>SCERR</b> | TO NPC is not provisioned as DGA                            |
| <b>D6</b> | <b>INERR</b> | Invalid FROM channel number                                 |
| <b>D7</b> | <b>INERR</b> | Invalid TO channel number                                   |
| <b>D9</b> | <b>INERR</b> | Invalid FROM channel number range                           |
| <b>DA</b> | <b>INERR</b> | Invalid TO channel number range                             |
| <b>DC</b> | <b>INERR</b> | A loopback is active on the FROM termination                |
| <b>DD</b> | <b>INERR</b> | A loopback is active on the TO termination                  |
| <b>DF</b> | <b>INERR</b> | Unmatched channel range                                     |
| <b>E0</b> | <b>SCERR</b> | Unmatched channel range involving SLC Mode III termination  |
| <b>E2</b> | <b>INERR</b> | Attempt to one way cross-connect a locally switched channel |
| <b>E4</b> | <b>SCERR</b> | RT-DCLU cross-connect with different ids                    |
| <b>E5</b> | <b>SCERR</b> | RT-DCLU cross-connect with different channel number         |
| <b>E6</b> | <b>SCERR</b> | Cross-connect a non Mode I channel to DCLU                  |
| <b>E7</b> | <b>SCERR</b> | Cross-connect a non SLC channel to DCLU                     |
| <b>E8</b> | <b>INERR</b> | SC invalid for cross-connection specified                   |
| <b>E9</b> | <b>INERR</b> | MUX or TRB invalid for cross-connection specified           |
| <b>EA</b> | <b>INERR</b> | AIS invalid for cross-connection specified                  |
| <b>EB</b> | <b>INERR</b> | NAM invalid for cross-connection specified                  |
| <b>EC</b> | <b>INERR</b> | Invalid channel 000 cross-connection specified              |
| <b>ED</b> | <b>INERR</b> | Invalid channel 031 cross-connection specified              |
| <b>FF</b> | <b>ROLL</b>  | Termination is in process of being rolled                   |

| <b>st</b>    | <b>d</b>       | <i>Explanation</i>            |
|--------------|----------------|-------------------------------|
| <b>ASGN</b>  | <b>{F T B}</b> | Termination assigned          |
| <b>CUS</b>   | <b>{F T B}</b> | Customer-controlled Circuit   |
| <b>FAIL</b>  | <b>{F T B}</b> | Failed                        |
| <b>OOS</b>   | <b>{F T B}</b> | Out-of-service                |
| <b>RDC</b>   | <b>{F T B}</b> | Red Circuit                   |
| <b>ROLL</b>  | <b>{F T B}</b> | Circuit is involved in a roll |
| <b>TG</b>    | <b>{F T B}</b> | NPC is grown as a test group  |
| <b>TP</b>    | <b>{F T B}</b> | NPC is used for test access   |
| <b>UNEQD</b> | <b>{F T B}</b> | Unequipped                    |
| <b>UTST</b>  | <b>{F T B}</b> | Under Test                    |

## **OCON, FROM, TO, RDC, CUS, INCL, PRIOUT**

### **ONE-WAY NON-CANNELIZED DIGITAL SIGNAL CROSS CONNECT**

#### **Explanation Of Command**

This message requests a one-way cross-connection between two non-channelized network processing circuits.

The idle code is the alarm-indication signal (AIS-all ones), and does not need to be specified. The disconnect code for 64 kbit/s disconnection cannot be used for non-channelized network processing circuits.

When a failure occurs or during an alarm state, the AIS is transmitted toward the TO network processing circuits.

#### **Command**

##### **Nonhierarchical**

[I.11131]

OCON:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC][,{CUS|INCL}][,PRIOUT]!

##### **Hierarchical**

[I.11131]

OCON:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][,{CUS|INCL}][,PRIOUT]!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.11131]

M hh:mm:ss xy,ww n[vv] OCON [s]abc,[t]ghi[ RDC][ CUS][ PRIOUT] COMPL

#### **Hierarchical**

---

[O.11131]

M hh:mm:ss xy,ww n[vv] OCON uvmnp,wxkqr[ RDC][ CUS][ PRIOUT] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.11131.01]

M hh:mm:ss xy,ww n[vv] OCON [s]abc,[t]ghi cc <st> DNY

[O.11131.02]

M hh:mm:ss xy,ww n[vv] OCON [s]abc,[t]ghi d <st> DNY

#### **Hierarchical**

---

[O.11131.01]

M hh:mm:ss xy,ww n[vv] OCON uvmnp,wxkqr cc <st> DNY

[O.11131.02]

M hh:mm:ss xy,ww n[vv] OCON uvmnp,wxkqr d <st> DNY

### **Autonomous Message**

---

Not applicable.

### Explanation Of Parameters

**[s]abc** - The 3- or 4-digit non-hierarchical non-channelized FROM NPC

**[t]ghi** - The 3- or 4-digit non-hierarchical non-channelized TO NPC

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**uv, wx** - Unit number

**m, k** - Module number

**np, qr** - NPC number within the module

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**RDC** - Red circuit  
**CUS** - Customer-controller circuit  
**INCL** - Inclusive option will remove CUS marking

**PRIOUT** - Priority Output

This keyword is used on the command line to prioritize the output response.

**st** - Status

**d** - Direction

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                        |
|-----------|--------------|---------------------------------------------------------------------------|
| <b>04</b> | <b>INERR</b> | No NPC's out of service and OOS keyword used                              |
| <b>12</b> | <b>MCOND</b> | Active CCN side not IS or failed or pested or hardware OOS                |
| <b>13</b> | <b>MCOND</b> | UNIT not equipped, not in service, or failed                              |
| <b>14</b> | <b>MCOND</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS     |
| <b>15</b> | <b>MCOND</b> | FTMI not equipped, not in service, or failed                              |
| <b>16</b> | <b>MCOND</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS       |
| <b>17</b> | <b>MCOND</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS     |
| <b>21</b> | <b>INERR</b> | Trunk conditioning is invalid                                             |
| <b>1A</b> | <b>MCOND</b> | Required FLI not equipped, not in service, or failed                      |
| <b>1B</b> | <b>MCOND</b> | Required MXR not equipped, not in service, or failed                      |
| <b>1C</b> | <b>MCOND</b> | Reqd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS |
| <b>1D</b> | <b>MCOND</b> | Required MIU not equipped, not in service, or failed                      |
| <b>FF</b> | <b>ROLL</b>  | Termination is in process of being rolled                                 |



| st    | d       | Explanation                   |
|-------|---------|-------------------------------|
| ASGN  | {F T B} | Termination assigned          |
| CUS   | {F T B} | Customer-controlled Circuit   |
| FAIL  | {F T B} | Failed                        |
| INVLD | {F T B} | Invalid NPC type              |
| NPCTA | {F T B} | NPC used for Test Access      |
| OOS   | {F T B} | Out-of-service                |
| RDC   | {F T B} | Red Circuit                   |
| ROLL  | {F T B} | Circuit is involved in a roll |
| UEQD  | {F T B} | Unequipped                    |
| UTST  | {F T B} | Under Test                    |

## **ODIS, FROM, TO, INCL, OOS, DCC**

### **ONE-WAY MULTIPOINT DISCONNECTIONS**

#### **Explanation Of Command**

This message requests a one-way disconnection from the specified FROM end termination(s) and to the TO end termination. It is used to disconnect a one-way multipoint circuit.

#### **Command**

##### **Nonhierarchical**

[I.15102]

ODIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\  
[,INCL][,OOS][,DCC]!

##### **Hierarchical**

[I.15102]

ODIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\  
[,INCL][,OOS][,DCC]!

#### **Completion Message**

##### **Nonhierarchical**

[O.15102]

M hh:mm:ss xy,ww n[vv] ODIS [s]abcddd[-eee],[t]ghijjj[-kkk] \  
2 LN MSG:  
[NOBBL {F|T}][ MPDIS {F|T|B}][ OOS][ CUS][ RDC][ DCC] COMPL

### **Hierarchical**

---

[O.15102]

M hh:mm:ss xy,ww n[vv] ODIS uvmnpddd[-eee],wxkqrjjj[-kkk] \\  
2 LN MSG:  
[NOBBL {F|T}][ MPDIS {F|T|B}][ OOS][ CUS][ RDC][ DCC] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.15101.01]

M hh:mm:ss xy,ww n[vv] ODIS [s]abcdddd[-eee],[t]ghijjj[-kkk] \\  
[ mmm,nnn] cc <st> DNY

[O.15101.02]

M hh:mm:ss xy,ww n[vv] ODIS [s]abcdddd[-eee],[t]ghijjj[-kkk] \\  
[ mmm,nnn] <d> <st> DNY

### **Hierarchical**

---

[O.15101.01]

M hh:mm:ss xy,ww n[vv] ODIS uvmnpddd[-eee],wxkqrjjj[-kkk] \\  
[ mmm,nnn] cc <st> DNY

[O.15101.02]

M hh:mm:ss xy,ww n[vv] ODIS uvmnpddd[-eee],wxkqrjjj[-kkk] \\  
[ mmm,nnn] <d> <st> DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**FROM** - From terminations

**TO** - To terminations

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number

**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

DACS II Non-CEF frames support two virtual NPCs using the three digit NPC numbering scheme. The valid values for Non-CEF frames are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**961-962**

DACS II CEF frames support six virtual NPCs using either a three digit or four digit NPC numbering scheme. If NPC numbers are expressed in three digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**961-966**

If NPC numbers are expressed in four digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**9961-9966**

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**uv, wx** - Unit number

**m, k** - Module number

**np, qr** - NPC number within the module

The valid values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

VI NPC numbers listed by unit, module, and NPC Number  
Unit Type VI (Virtual)

| Unit      | Module   | NPC                                   |
|-----------|----------|---------------------------------------|
| <b>99</b> | <b>1</b> | <b>01-02 (DACS II Non-CEF frames)</b> |
| <b>99</b> | <b>1</b> | <b>01-06 (DACS II CEF frames)</b>     |

**ddd, jjj**

- Channel number

**eee, kkk**

- Channel number denoting the end of range.

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

The backbone termination is on the Virtual NPC (001 through 500).

**INCL** - Inclusive

To disconnect a channel or range of channels including one or more channels marked as a Red Circuit, use the INCL option.

The message will be denied if any circuits in the range are Red Circuits and the INCL option is not used.

**OOS** - Out of service

At least one end of the circuit must be out-of-service or the OOS disconnect will be denied.

**DCC** - Disconnect code

DACS II will insert the user-defined disconnect code and signaling into the disconnected channels. This disconnect code and signaling are specified by the trunk conditioning field of the TCON command that initially connected the channels.

If the DCC option is not used, the disconnect code specified in the grow NPC command will be used.

**NOBBL** - No backbone leg

The optional NOBBL will appear if the multipoint circuit FROM or TO was in the broadcast mode but has no backbone leg.

**MPDIS** - Multipoint disconnect

**F** - From

**T** - To

Full disconnection of the multipoint circuits is indicated by MPDIS for FROM or TO.

**CUS** - Customer

Customer-control circuit

**RDC** - Red circuit

Disconnection was performed on a red circuit.

If the disconnection was given on more than one circuit, then at least one of them was a red circuit.

**mmm, nnn**

- Channel number involved in denial.

**st** - Status of denial

**d** - Direction

| <b>d</b> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|   |      |
|---|------|
| F | From |
|---|------|

|   |    |
|---|----|
| T | To |
|---|----|

|   |      |
|---|------|
| B | Both |
|---|------|



**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b>      | <i>Explanation</i>                                                        |
|-----------|----------------|---------------------------------------------------------------------------|
| <b>04</b> | <b>INERR</b>   | No NPC's out of service and OOS keyword used                              |
| <b>06</b> | <b>INERR</b>   | Invalid range for specified FROM NPC type                                 |
| <b>07</b> | <b>INERR</b>   | Invalid range for specified TO NPC type                                   |
| <b>08</b> | <b>INERR</b>   | Invalid FROM NPC type for AIS insertion                                   |
| <b>09</b> | <b>INERR</b>   | Invalid TO NPC type for AIS insertion                                     |
| <b>12</b> | <b>MCOND</b>   | Active CCN side not IS or failed or pested or hardware OOS                |
| <b>13</b> | <b>MCOND</b>   | UNIT not equipped, not in service, or failed                              |
| <b>14</b> | <b>MCOND</b>   | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS     |
| <b>15</b> | <b>MCOND</b>   | FTMI not equipped, not in service, or failed                              |
| <b>16</b> | <b>MCOND</b>   | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS       |
| <b>17</b> | <b>MCOND</b>   | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS     |
| <b>34</b> | <b>MCOND</b>   | Termination is under customer control (CUS)                               |
| <b>35</b> | <b>MCOND</b>   | Termination is protected (RDC)                                            |
| <b>71</b> | <b>CONFERR</b> | Try to delete a BBL leg from VC; however, VC has no BBL leg               |
| <b>72</b> | <b>CONFERR</b> | The NPC of VC BBL leg doesn't match that in the input command             |
| <b>73</b> | <b>CONFERR</b> | The first channel of VC BBL leg doesn't match that in the input command   |
| <b>74</b> | <b>CONFERR</b> | Try to delete a BRD leg from VC; however, VC has no BRD leg               |
| <b>75</b> | <b>CONFERR</b> | The input BRD leg is not in VC                                            |
| <b>76</b> | <b>CONFERR</b> | The first channel of VC BRD leg doesn't match that in the input command   |
| <b>77</b> | <b>CONFERR</b> | Tried to disconnect a nonexisting VC                                      |
| <b>79</b> | <b>CONFERR</b> | Try to operate a TWO-WAY conference with an ONE-WAY input command         |
| <b>80</b> | <b>CONFERR</b> | Database conference width does not match the range in input command       |
| <b>81</b> | <b>INERR</b>   | Invalid input BBL as fmd in ONE-WAY command                               |
| <b>82</b> | <b>INERR</b>   | Invalid input BRD as tmd in ONE-WAY command                               |
| <b>84</b> | <b>CONFERR</b> | Trying to add or delete a leg when a conference is under test             |
| <b>1A</b> | <b>MCOND</b>   | Required FLI not equipped, not in service, or failed                      |
| <b>1B</b> | <b>MCOND</b>   | Required MXR not equipped, not in service, or failed                      |
| <b>1C</b> | <b>MCOND</b>   | Reqd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS |
| <b>1D</b> | <b>MCOND</b>   | Required MIU not equipped, not in service, or failed                      |
| <b>D0</b> | <b>SCERR</b>   | FROM NPC is not provisioned as DGA                                        |
| <b>D1</b> | <b>SCERR</b>   | TO NPC is not provisioned as DGA                                          |
| <b>D3</b> | <b>SCERR</b>   | Corresponding NPC for FROM virtual channel is not provisioned             |

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                          |
|-----------|--------------|-------------------------------------------------------------|
| <b>D4</b> | <b>SCERR</b> | Corresponding NPC for TO virtual channel is not provisioned |
| <b>D6</b> | <b>INERR</b> | Invalid FROM channel number                                 |
| <b>D7</b> | <b>INERR</b> | Invalid TO channel number                                   |
| <b>D9</b> | <b>INERR</b> | Invalid FROM channel number range                           |
| <b>DA</b> | <b>INERR</b> | Invalid TO channel number range                             |
| <b>DC</b> | <b>INERR</b> | A loopback is active on the FROM termination                |
| <b>DD</b> | <b>INERR</b> | A loopback is active on the TO termination                  |
| <b>DF</b> | <b>INERR</b> | Unmatched channel range                                     |
| <b>E0</b> | <b>SCERR</b> | Unmatched channel range involving SLC Mode III termination  |
| <b>E4</b> | <b>SCERR</b> | RT-DCLU cross-connect with different ids                    |
| <b>E5</b> | <b>SCERR</b> | RT-DCLU cross-connect with different channel number         |
| <b>E6</b> | <b>SCERR</b> | Cross-connect a non Mode I channel to DCLU                  |
| <b>E7</b> | <b>SCERR</b> | Cross-connect a non SLC channel to DCLU                     |
| <b>EC</b> | <b>INERR</b> | Invalid channel 000 cross-connection specified              |
| <b>ED</b> | <b>INERR</b> | Invalid channel 031 cross-connection specified              |
| <b>FF</b> | <b>ROLL</b>  | Termination is in process of being rolled                   |

| <b>st</b>      | <b>d</b>       | <i>Explanation</i>                  |
|----------------|----------------|-------------------------------------|
| <b>CUS</b>     | <b>{F T B}</b> | Customer-controlled Circuit         |
| <b>FAIL</b>    | <b>{F T B}</b> | Failed                              |
| <b>NOMTH</b>   | <b>{F T B}</b> | No Match                            |
| <b>OOS</b>     | <b>{F T B}</b> | Out-of-service                      |
| <b>RDC</b>     | <b>{F T B}</b> | Red Circuit                         |
| <b>TP</b>      | <b>{F T B}</b> | NPC is used for test access         |
| <b>UNPASGN</b> | <b>{F T B}</b> | Unassigned or Not Properly Assigned |
| <b>UEQD</b>    | <b>{F T B}</b> | Unequipped                          |
| <b>UTST</b>    | <b>{F T B}</b> | Under Test                          |

## **ODIS, FROM, TO, INCL, OOS, DCC, PRIOUT**

### **ONE-WAY DISCONNECT**

#### **Explanation Of Command**

This message requests the disconnection of a one-way two-point cross-connect circuit or a range of one-way circuits.

#### **Command**

##### **Nonhierarchical**

[I.15101]

ODIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\  
[,INCL][,OOS][,DCC][,PRIOUT]!

##### **Hierarchical**

[I.15101]

ODIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\  
[,INCL][,OOS][,DCC][,PRIOUT]!

#### **Completion Message**

##### **Nonhierarchical**

[O.15101]

M hh:mm:ss xy,ww n[vv] ODIS [s]abcddd[-eee],[t]ghijjj[-kkk]\  
[ OOS][ DCC][ CUS][ RDC][ PRIOUT] COMPL

### **Hierarchical**

---

[O.15101]

M hh:mm:ss xy,ww n[vv] ODIS uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ OOS][ DCC][ CUS][ RDC][ PRIOUT] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.15101.01]

M hh:mm:ss xy,ww n[vv] ODIS [s]abcdddd[-eee],[t]ghijjj[-kkk]\  
[ mmm,nnn] cc <st> DNY

[O.15101.02]

M hh:mm:ss xy,ww n[vv] ODIS [s]abcdddd[-eee],[t]ghijjj[-kkk]\  
[ mmm,nnn] <d> <st> DNY

### **Hierarchical**

---

[O.15101.01]

M hh:mm:ss xy,ww n[vv] ODIS uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ mmm,nnn] cc <st> DNY

[O.15101.02]

M hh:mm:ss xy,ww n[vv] ODIS uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ mmm,nnn] <d> <st> DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**FROM** - From  
**TO** - To

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number  
**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number for beginning of NPC range

**wxkqr** - Hierarchical TO NPC number for end of NPC range

The valid values are listed below:

**uv, wx** - Unit number  
**m, k** - Module number  
**np, qr** - NPC number within the module

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM channel number  
**jjj** - TO channel number  
**eee** - FROM channel number denoting the end of a channel range.  
**kkk** - TO channel number denoting the end of a channel range.

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**INCL** - Inclusive

To disconnect a circuit or range of circuits including one or more circuits marked either RDC or CUS, use the optional INCL keyword. If this keyword is not used, the message will be denied if any circuits in the range are red circuits or customer controlled circuits.

**OOS** - Out-of-service

An Out-Of-Service disconnect may be done by giving the optional OOS keyword.

At least one end of the circuit must be out-of-service or the OOS disconnect will be denied.

**PRIOUT** - Priority Output

This keyword is used on the command line to prioritize the output response.

**DCC** - Disconnect code

If DCC is specified, DACS II will insert the user-defined disconnect code and signaling into the disconnected channels. This disconnect code and signaling are specified by the <tc> field of the TCON command that initially connected the channels. If the DCC option is not used, the disconnect code specified in the GRTH NPC command will be used.

**RDC** - Red circuit

**CUS** - Customer

Customer-controlled circuit

Terminations cross-connected using the optional CUS keyword retain their CUS status when disconnected. If the terminations are reconnected without the CUS or INCL keyword, the command will be denied. When they are reconnected with the INCL keyword, they lose their customer controlled status.

**mmm, nnn**

- Channel number involved in denial. Otherwise the same as ddd.

**d** - Direction

| <i>d</i> | <i>Explanation</i> |
|----------|--------------------|
| F        | From               |
| T        | To                 |
| B        | Both               |

**st** - Status

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                    |
|-----------|--------------|-----------------------------------------------------------------------|
| <b>04</b> | <b>INERR</b> | No NPC's out of service and OOS keyword used                          |
| <b>06</b> | <b>INERR</b> | Invalid range for specified FROM NPC type                             |
| <b>07</b> | <b>INERR</b> | Invalid range for specified TO NPC type                               |
| <b>12</b> | <b>MCOND</b> | Active CCN side not IS or failed or pested or hardware OOS            |
| <b>13</b> | <b>MCOND</b> | UNIT not equipped, not in service, or failed                          |
| <b>14</b> | <b>MCOND</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS |
| <b>15</b> | <b>MCOND</b> | FTMI not equipped, not in service, or failed                          |



| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                        |
|-----------|--------------|---------------------------------------------------------------------------|
| <b>16</b> | <b>MCOND</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS       |
| <b>17</b> | <b>MCOND</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS     |
| <b>1A</b> | <b>MCOND</b> | Required FLI not equipped, not in service, or failed                      |
| <b>1B</b> | <b>MCOND</b> | Required MXR not equipped, not in service, or failed                      |
| <b>1C</b> | <b>MCOND</b> | Reqd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS |
| <b>1D</b> | <b>MCOND</b> | Required MIU not equipped, not in service, or failed                      |
| <b>D0</b> | <b>SCERR</b> | FROM NPC is not provisioned as DGA                                        |
| <b>D1</b> | <b>SCERR</b> | TO NPC is not provisioned as DGA                                          |
| <b>D6</b> | <b>INERR</b> | Invalid FROM channel number                                               |
| <b>D7</b> | <b>INERR</b> | Invalid TO channel number                                                 |
| <b>D9</b> | <b>INERR</b> | Invalid FROM channel number range                                         |
| <b>DA</b> | <b>INERR</b> | Invalid TO channel number range                                           |
| <b>DC</b> | <b>INERR</b> | A loopback is active on the FROM termination                              |
| <b>DD</b> | <b>INERR</b> | A loopback is active on the TO termination                                |
| <b>DF</b> | <b>INERR</b> | Unmatched channel range                                                   |
| <b>E0</b> | <b>SCERR</b> | Unmatched channel range involving SLC Mode III termination                |
| <b>E4</b> | <b>SCERR</b> | RT-DCLU cross-connect with different ids                                  |
| <b>E5</b> | <b>SCERR</b> | RT-DCLU cross-connect with different channel number                       |
| <b>E6</b> | <b>SCERR</b> | Cross-connect a non Mode I channel to DCLU                                |
| <b>E7</b> | <b>SCERR</b> | Cross-connect a non SLC channel to DCLU                                   |
| <b>EC</b> | <b>INERR</b> | Invalid channel 000 cross-connection specified                            |
| <b>ED</b> | <b>INERR</b> | Invalid channel 031 cross-connection specified                            |
| <b>FF</b> | <b>ROLL</b>  | Termination is in process of being rolled                                 |
| <b>E0</b> | <b>MCOND</b> | ETSI not equipped, not in service, or failed                              |

| <b>st</b>      | <b>d</b>       | <i>Explanation</i>                  |
|----------------|----------------|-------------------------------------|
| <b>CUS</b>     | <b>{F T B}</b> | Customer-controlled Circuit         |
| <b>FAIL</b>    | <b>{F T B}</b> | Failed                              |
| <b>NOMTH</b>   | <b>{F T B}</b> | No Match                            |
| <b>OOS</b>     | <b>{F T B}</b> | Out-of-service                      |
| <b>RDC</b>     | <b>{F T B}</b> | Red Circuit                         |
| <b>ROLL</b>    | <b>{F T B}</b> | Circuit is involved in a roll       |
| <b>TP</b>      | <b>{F T B}</b> | NPC is used for test access         |
| <b>UNPASGN</b> | <b>{F T B}</b> | Unassigned or Not Properly Assigned |
| <b>UEQD</b>    | <b>{F T B}</b> | Unequipped                          |
| <b>UTST</b>    | <b>{F T B}</b> | Under Test                          |

## **ODIS, FROM, TO, OOS, INCL, PRIOUT**

### **ONE-WAY DISCONNECT**

#### **Explanation Of Command**

This message disconnects a one-way cross-connection between two non-channelized network processing circuits. When the circuit is disconnected, the idle code (AIS) is transmitted.

#### **Command**

##### **Nonhierarchical**

[I.15111]

ODIS:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,OOS][,INCL][,PRIOUT]!

##### **Hierarchical**

[I.15111]

ODIS:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,OOS][,INCL][,PRIOUT]!

#### **Completion Message**

##### **Nonhierarchical**

[O.15111]

M hh:mm:ss xy,ww n[vv] ODIS [s]abc,[t]ghi[ OOS][ RDC][ CUS] \  
[ PRIOUT] COMPL

### **Hierarchical**

---

[O.15111]

M hh:mm:ss xy,ww n[vv] ODIS uvmnp,wxkqr[ OOS][ RDC][ CUS] \  
[ PRIOUT] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.15111.01]

M hh:mm:ss xy,ww n[vv] ODIS [s]abc,[t]ghi cc <st> DNY

[O.15111.02]

M hh:mm:ss xy,ww n[vv] ODIS [s]abc,[t]ghi d <st> DNY

### **Hierarchical**

---

[O.15111.01]

M hh:mm:ss xy,ww n[vv] ODIS uvmnp,wxkqr cc <st> DNY

[O.15111.02]

M hh:mm:ss xy,ww n[vv] ODIS uvmnp,wxkqr d <st> DNY

### **Autonomous Message**

---

Not applicable.

### Explanation Of Parameters

- [s]abc** - The 3- or 4-digit non-hierarchical non-channelized FROM NPC number  
**[t]ghi** - The 3- or 4-digit non-hierarchical non-channelized TO NPC number

PRIOUT - Priority Output

This keyword is used on the command line to prioritize the output response.

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical number of non-channelized FROM NPC

**wxkqr** - Hierarchical number of non-channelized TO NPC

**uv, wx** - Unit number  
**m, k** - Module number  
**np, qr** - NPC number within the module

The values are listed below:

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**INCL** - Inclusive  
Required for a customer-controlled circuit or a red circuit

**OOS** - Out-of-Service  
May be specified if one or both NPCs are out of service

**RDC** - Red circuit  
Disconnection of Red circuit

**RDLD** - Red lined

**CUS** - Customer  
Disconnection of Customer-controlled circuit

**st** - Status of denial

**d** - Direction {F-from | T-to | B-both}

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                    |
|-----------|--------------|-----------------------------------------------------------------------|
| <b>04</b> | <b>INERR</b> | No NPC's out of service and OOS keyword used                          |
| <b>12</b> | <b>MCOND</b> | Active CCN side not IS or failed or pested or hardware OOS            |
| <b>13</b> | <b>MCOND</b> | UNIT not equipped, not in service, or failed                          |
| <b>14</b> | <b>MCOND</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS |
| <b>15</b> | <b>MCOND</b> | FTMI not equipped, not in service, or failed                          |

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                        |
|-----------|--------------|---------------------------------------------------------------------------|
| <b>16</b> | <b>MCOND</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS       |
| <b>17</b> | <b>MCOND</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS     |
| <b>1A</b> | <b>MCOND</b> | Required FLI not equipped, not in service, or failed                      |
| <b>1B</b> | <b>MCOND</b> | Required MXR not equipped, not in service, or failed                      |
| <b>1C</b> | <b>MCOND</b> | Reqd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS |
| <b>1D</b> | <b>MCOND</b> | Required MIU not equipped, not in service, or failed                      |
| <b>FF</b> | <b>ROLL</b>  | Termination is in process of being rolled                                 |
| <b>E0</b> | <b>MCOND</b> | ETSI not equipped, not in service, or failed                              |

| <b>st</b>      | <b>d</b>       | <i>Explanation</i>                  |
|----------------|----------------|-------------------------------------|
| <b>CUS</b>     | <b>{F T B}</b> | Customer-controlled Circuit         |
| <b>FAIL</b>    | <b>{F T B}</b> | Failed                              |
| <b>INVLD</b>   | <b>{F T B}</b> | Invalid NPC type                    |
| <b>NOMTH</b>   | <b>{F T B}</b> | No Match                            |
| <b>NPCTA</b>   | <b>{F T B}</b> | NPC used for Test Access            |
| <b>OOS</b>     | <b>{F T B}</b> | Out-of-service                      |
| <b>RDC</b>     | <b>{F T B}</b> | Red Circuit                         |
| <b>ROLL</b>    | <b>{F T B}</b> | Circuit is involved in a roll       |
| <b>UNPASGN</b> | <b>{F T B}</b> | Unassigned or Not Properly Assigned |
| <b>UEQD</b>    | <b>{F T B}</b> | Unequipped                          |
| <b>UTST</b>    | <b>{F T B}</b> | Under Test                          |

## **OPR,LPBK,NPC,LOCN**

### **FACILITY LOOPBACK ACTIVATE**

#### **Explanation Of Command**

ANSI (American National Standards Institute) T1.403 is a DS1 interface specification, which among other things, specifies the use of the 4kb/s ESF data link for network maintenance. The data link is used to communicate between network elements which transport the DS1 facility.

This command is used to initiate near-end (at the DACS II) and far-end (at the terminal on the other end of the DS1 facility) loopbacks for ESF formatted facilities as defined by ANSI T1.403.

DACS II will execute a near-end payload loopback by transmitting the received information bits of each frame back onto the DS1 facility. The framing bit position is regenerated by DACS II during a payload loopback.

DACS II will also send payload, line, and network loopback commands on the ESF data link to far-end equipment, ordering the equipment on the other end of the DS1 facility to execute the respective loopbacks.

#### **Command**

##### **Nonhierarchical**

[I.26141]

**OPR:FRM xy,SEQ ww:LPBK loop,NPC [s]abc,LOCN locn!**



### **Hierarchical**

---

[I.26141]

OPR:FRM xy,SEQ ww:LPBK loop,NPC uvmnp,LOCN locn!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.26141]

M hh:mm:ss xy,ww n[vv] OPR LPBK loop NPC [s]abc LOCN locn COMPL

### **Hierarchical**

---

[O.26141]

M hh:mm:ss xy,ww n[vv] OPR LPBK loop NPC uvmnp LOCN locn COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.26141.01]

M hh:mm:ss xy,ww n[vv] OPR LPBK loop NPC [s]abc LOCN locn \  
COND cc DNY

### **Hierarchical**

---

[O.26141.01]

M hh:mm:ss xy,ww n[vv] OPR LPBK loop NPC uvmnp LOCN locn \  
COND cc DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**LPBK** - Loopback

**loop** - Loopback Type

*loop Explanation*

**LINE** - Line

**PYLD** - Payload

**NTWK** - Network

**NPC** - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number

The valid values are:

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**LOCN** - Location

**locn** - Loopback Location

| <i>locn</i> | <i>Explanation</i> |
|-------------|--------------------|
|-------------|--------------------|

|      |          |
|------|----------|
| NEND | Near-end |
| FEND | Far-end  |

**cc** - Hexadecimal condition code

| <b>cc</b> | <i>Explanation</i> |
|-----------|--------------------|
|-----------|--------------------|

|           |                                                                    |
|-----------|--------------------------------------------------------------------|
| <b>02</b> | Subject entity is not equipped                                     |
| <b>04</b> | Subject entity is out of service                                   |
| <b>10</b> | Unit is not equipped                                               |
| <b>11</b> | UC is out of service                                               |
| <b>12</b> | UC is in service but failed                                        |
| <b>13</b> | FTMI is not equipped                                               |
| <b>14</b> | FTMI is out of service                                             |
| <b>26</b> | NPC type error                                                     |
| <b>9B</b> | The MXR is not grown                                               |
| <b>B2</b> | MXR is out of service                                              |
| <b>05</b> | Invalid parameter combination                                      |
| <b>0B</b> | Another signal already active prevents this signal from being sent |
| <b>29</b> | This signal is already being sent                                  |
| <b>30</b> | No signals active                                                  |
| <b>84</b> | NPC is non-channelized                                             |
| <b>86</b> | NPC number out of range                                            |

## **OPR,TSIG,NPC**

---

### **FACILITY TEST SIGNAL ACTIVATE**

#### **Explanation Of Command**

This command is used to initiate facility test signals on DACS II DA and TA DS1 facility types. The test signals support network maintenance activities.

For the Yellow Test, High Density Test, Low Density Test, and Quasi-Random Test Signals, once the test signal activation command is received and executed, the test signal remains on the line until it is deactivated by a subsequent user command.

The In-Band Loop-back Activate and In-Band Loop-back Deactivate Signals are temporary test signals. These test signals are activated by a command, transmitted for a duration of 5-8 seconds, and then automatically deactivated. When these are deactivated, the facility returns to its previous state, transmitting either normal data or any previously active test signal.

DACS II always applies downstream trunk conditioning before the NPC begins transmitting the requested test signal.

For DA and TA type DS1 facilities using the ESF format, DACS II will also transmit a Loopback Retention signal on the ESF-DL. Transmission of this signal does not cause DACS II to apply downstream trunk conditioning because the Loopback Retention signal affects only the contents of the ESF-DL.

This signal is defined in ANSI (American National Standards Institute) T1.403 as a Bit Oriented Message which is reserved for network use. ANSI T1.403 is a DS1 interface specification, which among other things, specifies the use of the 4kb/s ESF data link for network maintenance. The data link is used to communicate between network elements which transport the DS1 facility.

#### **⇒ NOTE:**

Test signals overwrite, by design, any cross-connect signal on the line regardless of which was initiated first; the cross-connect or the test signal.

### **Command**

---

#### **Nonhierarchical**

---

[I.28101]

OPR:FRM xy,SEQ ww:TSIG test,NPC [s]abc!

#### **Hierarchical**

---

[I.28101]

OPR:FRM xy,SEQ ww:TSIG test,NPC uvmnp!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.28101]

M hh:mm:ss xy,ww n[vv] OPR TSIG test NPC [s]abc COMPL

#### **Hierarchical**

---

[O.28101]

M hh:mm:ss xy,ww n[vv] OPR TSIG test NPC uvmnp COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.28101.01]

M hh:mm:ss xy,ww n[vv] OPR TSIG test NPC [s]abc COND cc DNY

#### **Hierarchical**

---

[O.28101.01]

M hh:mm:ss xy,ww n[vv] OPR TSIG test NPC uvmnp COND cc DNY

## **Autonomous Message**

Not applicable.

## **Explanation Of Parameters**

**TSIG** - Test signal

test - Test signal type

### *test Explanation*

YELT Yellow Test Signal  
HDTS High Density Test Signal  
LDTS Low Density Test Signal  
QRTS Quasi-Random Test Signal  
ILBA In-Band Loopback Activate Signal  
ILBD In-Band Loopback Deactivate Signal  
LRET Loopback Retention Signal

**NPC** - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number

The valid values are:

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |



|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                                                    |
|-----------|--------------------------------------------------------------------|
| <b>02</b> | Subject entity is not equipped                                     |
| <b>04</b> | Subject entity is out of service                                   |
| <b>10</b> | Unit is not equipped                                               |
| <b>11</b> | UC is out of service                                               |
| <b>12</b> | UC is in service but failed                                        |
| <b>13</b> | FTMI is not equipped                                               |
| <b>14</b> | FTMI is out of service                                             |
| <b>26</b> | NPC type error                                                     |
| <b>9B</b> | The MXR is not grown                                               |
| <b>B2</b> | MXR is out of service                                              |
| <b>05</b> | Invalid parameter combination                                      |
| <b>0B</b> | Another signal already active prevents this signal from being sent |
| <b>29</b> | This signal is already being sent                                  |
| <b>30</b> | No signals active                                                  |
| <b>84</b> | NPC is non-channelized                                             |
| <b>86</b> | NPC number out of range                                            |

## **OVERLOAD,MP,CI,UNIT,UC,TN,PROCESSOR**

### **OVERLOAD**

#### **Explanation Of Command**

**This troubleshooting message is used only by the DACS II developers** and occurs when the indicated CPU processor has reported an internal error from which recovery is not possible. The error may be in the CPU hardware or related software. The resulting troubleshooting data can be useful in isolating software problems.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

## Autonomous Message

[O.01381]

```
**hh:mm:ss xy,ww OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd \
PROCESSOR DATA 5 LN MSG:
<d01> <d02> <d03> <d04> <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12> <d13> <d14> <d15> <d16>
<d17> <d18> <d19> <d20> <d21> <d22> <d23> <d24>
<d25> <d26> <d27> <d28> <d29> <d3031> <d3233> <d34353637> \
EOM
```

```
**hh:mm:ss xy,ww OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd \
PROGRAM TEXT 5 LN MSG:
<d01> <d02> <d03> <d04> <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12> <d13> <d14> <d15> <d16>
<d17> <d18> <d19> <d20> <d21> <d22> <d23> <d24>
<d25> <d26> <d27> <d28> <d29> <d30> <d31> <d32> EOM
```

```
**hh:mm:ss xy,ww OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd \
MEMORY DATA 5 LN MSG:
<d01> <d02> <d03> <d04> <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12> <d13> <d14> <d15> <d16>
<d17> <d18> <d19> <d20> <d21> <d22> <d23> <d24>
<d25> <d26> <d27> <d28> <d29> <d30> <d31> <d32> EOM
```

```
**hh:mm:ss xy,ww OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd READY \
QUEUE DATA 3 LN MSG:
<d01> <d02> <d03> <d04> <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12> <d13> <d14> <d15> <d16> EOM
```

```
**hh:mm:ss xy,ww OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd PAUSE \
QUEUE DATA 3 LN MSG:
<d01> <d02> <d03> <d04> <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12> <d13> <d14> <d15> <d16> EOM
```

```
**hh:mm:ss xy,ww OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd \
LOCAL STACK DATA 5 LN MSG:
<d01> <d02> <d03> <d04> <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12> <d13> <d14> <d15> <d16>
<d17> <d18> <d19> <d20> <d21> <d22> <d23> <d24>
<d25> <d26> <d27> <d28> <d29> <d30> <d31> <d32> EOM
```

```
**hh:mm:ss xy,ww OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd STACK \
TRACE 5 LN MSG:
<d01> <d02> <d03> <d04> <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12> <d13> <d14> <d15> <d16>
<d17> <d18> <d19> <d20> <d21> <d22> <d23> <d24>
<d25> <d26> <d27> <d28> <d29> <d30> <d31> <d32> COMPL
```

## **Explanation Of Parameters**

---

### **OVERLOAD**

- Overload

**DATA** - Data

**\*\*** - Major Alarm

**MP** - Main processor

**CI** - Communications interface

**UC** - Unit controller

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**MC** - Main controller

**TN** - Transaction

**dddd** - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

The following interpretations are listed in alphabetical order by the capitalized names

**LOCAL** - Local

LOCAL STACK DATA interpretation

**dx**     *Explanation*

01     user stack pointer (A7)

02-32   dump of stack data (in reverse order)

**MEMORY** - Memory

MEMORY DATA interpretation

**dx**     *Explanation*

- 01     Address of bad memory segment
- 02     Number of attached memory segments
- 03     Memory size
- 04-08   Not used
- 09-32   Memory dump

This displays the memory attached to the process at the time of the OVERLOAD. If the memory address and memory dump section contain zeros, this indicates that there was no memory corruption. Otherwise, if corruption was detected, the address of the bad segment along with a memory dump of that segment will be displayed.

**PAUSE** - Pause

**QUEUE** - Queue

PAUSE QUEUE interpretation

**d01-d16**

- process name (ASCII)

This displays the processes that were in the pause queue at the time of the OVERLOAD.

## PROCESSOR

- Processor

### PROCESSOR DATA interpretation

This displays all relevant data about the processor at the time of the OVERLOAD. Note that pcb stands for process control block.

| <b>dx</b> | <i>Explanation</i>  |
|-----------|---------------------|
| 01        | process name        |
| 02        | stack pc            |
| 03        | pcb address         |
| 04        | pack id             |
| 05        | exception vector    |
| 06        | status register     |
| 07        | special status word |
| 08        | fault address       |
| 09        | usp                 |
| 10        | fp                  |
| 11        | A5                  |
| 12        | A4                  |
| 13        | A3                  |
| 14        | A2                  |
| 15        | A1                  |
| 16        | A0                  |
| 17        | D7                  |
| 18        | D6                  |
| 19        | D5                  |
| 20        | D4                  |
| 21        | D3                  |
| 22        | D2                  |
| 23        | D1                  |
| 24        | D0                  |
| 25        | pcb memory segs     |
| 26        | pcb ssp             |
| 27        | pcb pc              |
| 28        | pcb return addr     |
| 29        | pcb usp             |
| 30        | pcb events          |
| 31        | pcb tslice          |
| 32        | pcb sr              |
| 33        | pcb signals         |
| 34        | pcb prior           |
| 35        | pcb mode            |
| 36        | pcb dflag           |
| 37        | pcb status          |

**PROGRAM**

- Program

**TEXT** - Text

PROGRAM TEXT interpretation

**d01-d32**

- disassembled listing of program text (ASCII)

This displays the disassembled listing of the program text. The display contains up to 254 ASCII characters starting at the value of the program counter (pc) at the time the OVERLOAD occurred.

**READY** - Ready

READY QUEUE interpretation

**d01-d16**

- process name (ASCII)

This displays the processes that were in the ready-to-run queue at the time of the OVERLOAD.

**STACK** - Stack

**TRACE** - Trace

STACK TRACE interpretation

| <i>dxx</i> | <i>Explanation</i>    |
|------------|-----------------------|
| 01         | previous stack 1 (A6) |
| 02         | program counter       |
| 03-08      | stack dump            |
| 09         | previous stack 2 (A6) |
| 10         | program counter       |
| 11-16      | stack dump            |
| 17         | previous stack 3 (A6) |
| 18         | program counter       |
| 19-24      | stack dump            |
| 25         | previous stack 4 (A6) |
| 26         | program counter       |
| 27-32      | stack dump            |

This message dumps the previous four function calls prior to the function where the OVERLOAD occurred.

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## **REPT — RPT**

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This section documents the commands **REPT** through **RPT**.

## **REPT,PM,NPC,PARAM,COUNT,VLDTY,LOCN,AI**

### **REPORT DS1 PERFORMANCE MONITORING**

#### **Explanation Of Command**

This message is automatically generated by DACS II as the result of a user scheduling automatic DACS II performance reports for DA and TA type NPCs. The autonomous report format specifies the NPC along with all of the data necessary to identify the specific performance parameters and accumulation time periods that are being reported. The actual parameter counts are reported along with their historical validity indicators.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

[O.61011.01]

I hh:mm:ss xy,ww REPT PM ABORT COMPL



## Autonomous Message

### Nonhierarchical

[O.61011]

I hh:mm:ss xy,ww REPT PM e LN MSG:

| NPC    | PARAM | COUNT    | VLDTY | LOCN | AI    | MONDAT | MONTIM   |
|--------|-------|----------|-------|------|-------|--------|----------|
| [s]abc | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm     |
| [v]ghi | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm EOM |

I hh:mm:ss xy,ww REPT PM e LN MSG:

| NPC    | PARAM | COUNT    | VLDTY | LOCN | AI    | MONDAT | MONTIM     |
|--------|-------|----------|-------|------|-------|--------|------------|
| [u]jkl | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| .      | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm       |
| [t]def | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm COMPL |

## Hierarchical

[O.61011]

I hh:mm:ss xy,ww REPT PM e LN MSG:

| NPC   | PARAM | COUNT    | VLDTY | LOCN | AI    | MONDAT | MONTIM |     |
|-------|-------|----------|-------|------|-------|--------|--------|-----|
| uvmnp | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm   |     |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm   |     |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm   |     |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm   |     |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm   |     |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm   |     |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm   |     |
| edhfg | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm   | EOM |

I hh:mm:ss xy,ww REPT PM e LN MSG:

| NPC   | PARAM | COUNT    | VLDTY | LOCN | AI    | MONDAT | MONTIM |       |
|-------|-------|----------|-------|------|-------|--------|--------|-------|
| opjst | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm   |       |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm   |       |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm   |       |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm   |       |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm   |       |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm   |       |
| .     | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm   |       |
| wxkqr | pppp  | cccccccc | v     | locn | aaaaa | mmdd   | hhmm   | COMPL |

## Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical starting NPC number

[v]ghi - The 3- or 4-digit nonhierarchical NPC number ([s]abc through [t]def)

[u]jkl - The 3- or 4-digit nonhierarchical NPC number ([s]abc through [t]def)

[t]def - The 3- or 4-digit nonhierarchical ending NPC number

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical starting NPC number  
**edhfg** - Hierarchical NPC number (uvmnp through wxkqr)  
**opjst** - Hierarchical NPC number (uvmnp through wxkqr)  
**wxkqr** - Hierarchical ending NPC number

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

Unit    Module NPC  
**01-16 1-4    01-40**

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

Unit    Module    NPC  
**01-16    1-6    01-28**

**PARAM** - Parameter

**pppp** - Parameter name

The type of monitored parameter whose value is reported.

*pppp Explanation*

|      |                                       |
|------|---------------------------------------|
| CVP  | Path Coding Violations                |
| CVL  | Line Coding Violations                |
| ESP  | Path Errored Seconds                  |
| ESL  | Line Errored Seconds                  |
| SESP | Path Severely Errored Seconds         |
| SESL | Line Severely Errored Seconds         |
| SEFS | Path Severely Errored Framing Seconds |
| CSSP | Path Controlled Slip Seconds          |
| UASP | Path Unavailable Seconds              |

**COUNT** - Count

**cccccccc**

- The accumulated count of a monitored parameter.  
(000000000 through 134217728)

This parameter is meaningless if the VLDTY parameter indicates that data is not available for the interval.

**VLDTY** - Validity

**v** - Validity indicator

Indicates the validity of historical monitoring information. This parameter indicates whether the information for the specified accumulation interval was accumulated over the entire interval or some portion of it.

*v Explanation*

|   |                                                              |
|---|--------------------------------------------------------------|
| A | Adjusted, data was manually initialized                      |
| C | Complete, data was accumulated over the entire interval      |
| L | Long, data was accumulated longer than the interval period   |
| P | Partial, data was accumulated over only part of the interval |

**LOCN** - Location

**locn** - The location being performance monitored

*locn Explanation*

|      |          |
|------|----------|
| NEND | Near-end |
| FEND | Far-end  |

**AI** - Accumulation interval

**aaaaa** - Accumulation interval specification

The accumulation or performance monitoring period for the specified parameter.

*aaaaa Explanation*

15MIN Parameter count from a 15-minute accumulator

DAILY Parameter count from a daily accumulator

**MONDAT** - Monitored date

**mddd** - Beginning date of the performance monitoring period

The date on which the performance monitoring period begins. This period is specified in the AI parameter.

**mm** - Month of year (01 through 12)

**dd** - Day of the month (01 through 31)

**MONTIM** - Monitored time

**hhmm** - Time at which performance monitoring begins

When outputting current or historical data, this parameter indicates the beginning time of day of the historical accumulation interval specified in the AI parameter.

**hh** - Hour of day (00 through 23)

**mm** - Minute of hour (00 through 59)

**ABORT** - Abort

The autonomous ABORT message is generated when the buffer is overfilled with scheduled PM reports.

## **RESET,DATE,TOD,FORMAT,MDY,DMY**

### **ERROR RECOVERY**

#### **Explanation Of Command**

This autonomously generated message is used to inform the craft that the system clock has been recovered automatically by the frame. The field can either be date of the year, time of day, or both.

The date and time will default to 12/31/9999 and 00:00:00, respectively.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01393]

I hh:mm:ss xy,ww RESET {DATE|TOD|TOD DATE} hr:mn:sc \  
{mo/da/yr FORMAT MDY|da/mo/yr FORMAT DMY} COMPL

## **Explanation Of Parameters**

---

**RESET** - Reset

**TOD** - Time of day

**DATE** - Date

**mo/da/yr**

- date DACS II is reset to

**da/mo/yr**

- date DACS II is reset to

**yr** - 4- digit calendar year

**mo** - month (01 through 12)

**da** - day (01 through 31)

**hr:mn:sc**

- time DACS II is reset to

**hr** - hour (00 through 23)

**mn** - minute (00 through 59)

**sc** - second (00 through 59)

**FORMAT** - Date display format

**MDY** - Month/Day/Year format

**DMY** - Day/Month/Year format



## **RESET, STOPPED**

### **STARTUP**

#### **Explanation Of Command**

This autonomous message indicates that the reset procedure has not successfully completed.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.01251]

**RESET STOPPED**

#### **Explanation Of Parameters**

## **RLS,LPBK,NPC,LOCN**

### **FACILITY LOOPBACK RELEASE**

#### **Explanation Of Command**

ANSI (American National Standards Institute) T1.403 is a DS1 interface specification, which among other things, specifies the use of the 4kb/s ESF data link for network maintenance. The data link is used to communicate between network elements which transport the DS1 facility.

This command is used to deactivate near-end (at the DACS II) and far-end (at the terminal on the other end of the DS1 facility) loopbacks on ESF formatted facilities as defined by ANSI T1.403.

This command can be used to deactivate a DACS II near-end payload loopback or to cause DACS II to transmit payload, line, or network loopback deactivate commands on the ESF data link to far-end equipment, ordering the equipment on the other end of the DS1 facility to deactivate the respective loopbacks.

#### **Command**

##### **Nonhierarchical**

[I.26151]

**RLS:FRM xy,SEQ ww:LPBK loop,NPC [s]abc,LOCN locn!**

##### **Hierarchical**

[I.26151]

**RLS:FRM xy,SEQ ww:LPBK loop,NPC uvmnp,LOCN locn!**

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.26151]

M hh:mm:ss xy,ww n[vv] RLS LPBK loop NPC [s]abc LOCN locn COMPL

#### **Hierarchical**

---

[O.26151]

M hh:mm:ss xy,ww n[vv] RLS LPBK loop NPC uvmnp LOCN locn COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.26151.01]

M hh:mm:ss xy,ww n[vv] RLS LPBK loop NPC [s]abc LOCN locn \  
COND cc DNY

#### **Hierarchical**

---

[O.26151.01]

M hh:mm:ss xy,ww n[vv] RLS LPBK loop NPC uvmnp LOCN locn \  
COND cc DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**LPBK** - Loopback

loop - Loopback type

*loop Explanation*

LINE - Line

PYLD - Payload

NTWK - Network

**NPC** - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number

The valid values are:

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**LOCN** - Location

**locn** - Loopback Location

*locn Explanation*

|             |          |
|-------------|----------|
| <b>NEND</b> | Near-end |
| <b>FEND</b> | Far-end  |

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                                                    |
|-----------|--------------------------------------------------------------------|
| <b>02</b> | Subject entity is not equipped                                     |
| <b>04</b> | Subject entity is out of service                                   |
| <b>10</b> | Unit is not equipped                                               |
| <b>11</b> | UC is out of service                                               |
| <b>12</b> | UC is in service but failed                                        |
| <b>13</b> | FTMI is not equipped                                               |
| <b>14</b> | FTMI is out of service                                             |
| <b>26</b> | NPC type error                                                     |
| <b>9B</b> | The MXR is not grown                                               |
| <b>B2</b> | MXR is out of service                                              |
| <b>05</b> | Invalid parameter combination                                      |
| <b>0B</b> | Another signal already active prevents this signal from being sent |
| <b>29</b> | This signal is already being sent                                  |
| <b>30</b> | No signals active                                                  |
| <b>84</b> | NPC is non-channelized                                             |
| <b>86</b> | NPC number out of range                                            |

## **RLS,TSIG,NPC**

### **FACILITY TEST SIGNAL DEACTIVATE**

#### **Explanation Of Command**

This command is used to deactivate facility test signals and ANSI data link bit-oriented messages on DACS II DA and TA DS1 facility types. The test signals support network maintenance activities.

This command is required to deactivate any Yellow Test, High Density Test, Low Density Test, or Quasi-Random Test Signal previously applied to a facility because once these test signals are activated, they remain on the line until they are deactivated by this command.

Although this command also deactivates any currently active In-Band Loop-back Activate or In-Band Loop-back Deactivate Signal, these signals are temporary test signals which are transmitted for a duration of 5-8 seconds and then automatically deactivated by DACS II.

Deactivating a test signal also causes DACS II to remove any downstream trunk conditioning that was applied because the test signal was activated.

This command is also used to deactivate all data link test signals on DA or TA type DS1 facilities using the ESF format. Data link test signals include the Yellow Test signal (ESF mode), the Loopback Retention signal, and the ANSI far-end loopback activate/deactivate sequences which are initiated using the "Operate Loopback" command (26141). Data link test signals are defined in ANSI (American National Standards Institute) T1.403 as Bit Oriented Messages. ANSI T1.403 is a DS1 interface specification, which among other things, specifies the use of the 4kb/s ESF data link for network maintenance. The data link is used to communicate between network elements which transport the DS1 facility.

#### **Command**

#### **Nonhierarchical**

[I.28201]

RLS:FRM xy,SEQ ww:TSIG test,NPC [s]abc!

### **Hierarchical**

---

[I.28201]

RLS:FRM xy,SEQ ww:TSIG test,NPC uvmnp!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.28201]

M hh:mm:ss xy,ww n[vv] RLS TSIG test NPC [s]abc COMPL

#### **Hierarchical**

---

[O.28201]

M hh:mm:ss xy,ww n[vv] RLS TSIG test NPC uvmnp COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.28201.01]

M hh:mm:ss xy,ww n[vv] RLS TSIG test NPC [s]abc COND cc DNY

#### **Hierarchical**

---

[O.28201.01]

M hh:mm:ss xy,ww n[vv] RLS TSIG test NPC uvmnp COND cc DNY

### **Autonomous Message**

---

Not applicable.



## Explanation Of Parameters

TSIG - Test signal

test - Test signal type

### *test Explanation*

**ALLP** - All Payload Test Signals, including High Density Test Signal, Low Density Test Signal, Quasi-Random Test Signal, In-Band Loopback Activate Signal, In-Band Loopback Deactivate Signal, and Yellow Test Signal in D4/T1DM mode

**ALLD** - All Data Link Test Signals, including Yellow Test Signal in ESF mode, Loopback Retention Signal, and ANSI Bit-Oriented Far-End Loopback Activate/Deactivate Sequences.

**ALL** - All Test Signals in both the payload and data link.

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number

The valid values are:

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |

| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**cc** - Hexadecimal condition code

**cc**    *Explanation*

|           |                                                                    |
|-----------|--------------------------------------------------------------------|
| <b>02</b> | Subject entity is not equipped                                     |
| <b>04</b> | Subject entity is out of service                                   |
| <b>10</b> | Unit is not equipped                                               |
| <b>11</b> | UC is out of service                                               |
| <b>12</b> | UC is in service but failed                                        |
| <b>13</b> | FTMI is not equipped                                               |
| <b>14</b> | FTMI is out of service                                             |
| <b>26</b> | NPC type error                                                     |
| <b>9B</b> | The MXR is not grown                                               |
| <b>B2</b> | MXR is out of service                                              |
| <b>05</b> | Invalid parameter combination                                      |
| <b>0B</b> | Another signal already active prevents this signal from being sent |
| <b>29</b> | This signal is already being sent                                  |
| <b>30</b> | No signals active                                                  |
| <b>84</b> | NPC is non-channelized                                             |
| <b>86</b> | NPC number out of range                                            |

## **RMV,CCB**

---

### **REMOVE**

#### **Explanation Of Command**

---

This command applies only to the noncapacity expansion frame (NCEF).

It requests the removal of the cross-connect buffer from service.

#### **Command**

---

[I.33202]

RMV:FRM xy,SEQ ww:CCB sf!

#### **Completion Message**

---

[O.33202]

M hh:mm:ss xy,ww n[vv] RMV CCB sf COND 00 COMPL

#### **Denial Message**

---

[O.33202.01]

\*\*hh:mm:ss xy,ww n[vv] RMV CCB sf COND cc DNY

#### **Autonomous Message**

---

[O.33202]

\*\*hh:mm:ss xy,ww n[vv] RMV CCB sf COND 00 COMPL

[O.33202.01]

\*\*hh:mm:ss xy,ww n[vv] RMV CCB sf COND cc DNY

### **Explanation Of Parameters**

---

**CCB** - Cross-connect buffer

**sf** - CCB identification

**s** - Side No. (0 or 1).

**f** - CCB No. (1 through 6).

**COND** - Condition

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>Explanation</b> |
|-----------|--------------------|
|-----------|--------------------|

|           |                                       |
|-----------|---------------------------------------|
| <b>02</b> | <b>Subject entity is not equipped</b> |
|-----------|---------------------------------------|

|           |                                         |
|-----------|-----------------------------------------|
| <b>04</b> | <b>Subject entity is out of service</b> |
|-----------|-----------------------------------------|

|           |                               |
|-----------|-------------------------------|
| <b>18</b> | <b>CCNI is out of service</b> |
|-----------|-------------------------------|

|           |                                        |
|-----------|----------------------------------------|
| <b>19</b> | <b>Mate CCN side is out of service</b> |
|-----------|----------------------------------------|

## **RMV,CCI**

### **REMOVE CLOCK CONTROL INTERFACE**

#### **Explanation Of Command**

This command is applicable only to the capacity expansion frame (CEF).

It requests that the clock and control interface (CCI) in side s be removed from service.

When a CCI pack is removed from service, its two corresponding bus terminator (BT) packs are also removed.

#### **Command**

[I.33251]

**RMV:FRM xy,SEQ ww:CCI s!**

#### **Completion Message**

[O.33251]

**M hh:mm:ss xy,ww n[vv] RMV CCI s COND 00 COMPL**

#### **Denial Message**

[O.33251.01]

**M hh:mm:ss xy,ww n[vv] RMV CCI s COND cc DNY**

### **Autonomous Message**

---

[O.33251]

**\*\*hh:mm:ss xy,ww n[vv] RMV CCI s COND cc COMPL**

[O.33251.01]

**\*\*hh:mm:ss xy,ww n[vv] RMV CCI s COND cc DNY**

### **Explanation Of Parameters**

---

**CCI** - Clock and control interface

**s** - Side No. (0 or 1)

**cc** - Completion condition code (hexadecimal)  
To interpret values of cc see cc below.

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>Explanation</b> |
|-----------|--------------------|
|-----------|--------------------|

|           |                                         |
|-----------|-----------------------------------------|
| <b>04</b> | <b>Subject entity is out of service</b> |
|-----------|-----------------------------------------|

|           |                                        |
|-----------|----------------------------------------|
| <b>19</b> | <b>Mate CCN side is out of service</b> |
|-----------|----------------------------------------|

## **RMV,CCNI**

---

### **REMOVE CROSS-CONNECT NETWORK INTERFACE**

#### **Explanation Of Command**

---

This command applies only to the noncapacity expansion frame (NCEF).

It requests the removal of the cross-connect network interface from service.

#### **Command**

---

[I.33201]

**RMV:FRM xy,SEQ ww:CCNI s!**

#### **Completion Message**

---

[O.33201]

**M hh:mm:ss xy,ww n[vv] RMV CCNI s COND cc COMPL**

#### **Denial Message**

---

[O.33201.01]

**M hh:mm:ss xy,ww n[vv] RMV CCNI s COND cc DNY**

#### **Autonomous Message**

---

[O.33201.01]

**I hh:mm:ss xy,ww n[vv] RMV CCNI s COND cc DNY**



### **Explanation Of Parameters**

---

**CCNI** - Cross-connect network interface

**s** - CCNI number (0 or 1)

**cc** - Hexadecimal condition code

**cc Explanation**

**04 Subject entity is out of service**

**19 Mate CCN side is out of service**

## **RMV,ETSI**

---

### **REMOVE ETSI**

#### **Explanation Of Command**

---

This command applies only to the capacity expansion frame (CEF).

It requests the removal of an expanded time slot interchanger (ETSI) from service. DACS II will deny this command if the mate expanded cross-connect network (ECCN) side is out-of-service (OOS).

#### **Command**

---

[I.33261]

RMV:FRM xy,SEQ ww:ETSI sqq!

#### **Completion Message**

---

[O.33261]

M hh:mm:ss xy,ww n[vv] RMV ETSI sqq COND 00 COMPL

#### **Denial Message**

---

[O.33261.01]

M hh:mm:ss xy,ww n[vv] RMV ETSI sqq COND cc DNY

#### **Autonomous Message**

---

[O.33261]

\*\*hh:mm:ss xy,ww n[vv] RMV ETSI sqq COND 00 COMPL

[O.33261.01]

**\*\*hh:mm:ss xy,ww n[vv] RMV ETSI sqq COND cc DNY**

### **Explanation Of Parameters**

---

**ETSI** - Expanded time slot interchanger

**s** - Side (0 or 1).

**qq** - Unit number (01 through 16)

**COND** - Condition

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>Explanation</b> |
|-----------|--------------------|
|-----------|--------------------|

|           |                                       |
|-----------|---------------------------------------|
| <b>02</b> | <b>Subject entity is not equipped</b> |
|-----------|---------------------------------------|

|           |                                         |
|-----------|-----------------------------------------|
| <b>04</b> | <b>Subject entity is out of service</b> |
|-----------|-----------------------------------------|

|           |                                        |
|-----------|----------------------------------------|
| <b>19</b> | <b>Mate CCN side is out of service</b> |
|-----------|----------------------------------------|

|           |                              |
|-----------|------------------------------|
| <b>CE</b> | <b>CCI is out of service</b> |
|-----------|------------------------------|

---

## **RMV,ETIS,ECCN,ALL**

---

### **REMOVE ETIS ALL**

#### **Explanation Of Command**

---

This command applies only to the capacity expansion frame (CEF).

It requests the removal of all in-service expanded time slot interchangers (ETISs) in side "s" of the expanded cross-connect network (ECCN). This message is denied if ECCN side "s" is the active side and the mate ECCN side is out-of-service (OOS).

#### **Command**

---

[I.33271]

**RMV:FRM xy,SEQ ww:ETIS,ECCN s,ALL!**

#### **Completion Message**

---

[O.33271]

**M hh:mm:ss xy,ww n[vv] RMV ETIS ECCN s ALL 5 LN MSG:**

**TOTAL ETIS kk**

**s01 r nn s02 r nn s03 r nn s04 r nn s05 r nn s06 r nn**

**s07 r nn s08 r nn s09 r nn s10 r nn s11 r nn s12 r nn**

**s13 r nn s14 r nn s15 r nn s16 r nn**

**COND 00 COMPL**

#### **Denial Message**

---

[O.33271.01]

**M hh:mm:ss xy,ww n[vv] RMV ETIS ECCN s ALL \**

**COND cc DNY**

### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

**ETSI** - Expanded time slot interchangers

**ECN** - Expanded cross-connect network

**s** - Side number (0 or 1)

**kk** - Total number of ETSlS equipped in side s (01 through 16).

**r** - Indication of the completion or denial of the removal for each individual ETSI pack.

*r*      *Explanation*

C      Completed

D      Denied

-      ETSI not equipped

**nn** - Hexadecimal condition code for the particular ETSI.

For r = C

*nn*      *Explanation*

00      No condition

For r = D

*nn*      *Explanation*

04      Subject entity is out of service

"nn" will be shown as "--" if "r" is "-".      **cc**      - Hexadecimal condition code

**cc**      *Explanation*

**02**      Subject entity is not equipped

**04**      Subject entity is out of service

**19**      Mate CCN side is out of service

**CE**      CCI is out of service

## **RMV, LINK**

---

### **REMOVE LINK**

#### **Explanation Of Command**

---

This message requests the removal of the administrative link from service.

#### **Command**

---

[I.33011]

RMV:FRM xy,SEQ ww:LINK j!

#### **Completion Message**

---

[O.33011]

pahh:mm:ss xy,ww n[vv] RMV LINK j COND cc COMPL

#### **Denial Message**

---

[O.33011.01]

M hh:mm:ss xy,ww n[vv] RMV LINK j COND cc DNY

#### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**LINK** - Link

**j** - Administrative link number (1 through 6)

**pa** - Priority of action.

*pa*      *Explanation*

\*\*      Major alarm

\*^      Minor alarm (A "^" represents a blank space.)

M^      Manual response

**cc** - Hexadecimal condition code

**cc**      **Explanation**

**00**      **No conditions**

**04**      **Subject entity is out of service**

**08**      **Cannot remove own link**

**09**      **Last link in service**

**D0**      **Command is Frame administrator (DAX) only.**

**FC**      **Superuser logged on**

**FD**      **Command not allowed**

## **RMV,MC**

---

### **REMOVE MAIN CONTROLLER**

#### **Explanation Of Command**

---

This message removes the main controller from service. The MC must be in service for this command to be accepted. Diagnostic and restore messages can still be run on the MC.

#### **Command**

---

[I.33001]

**RMV:FRM xy,SEQ ww:MC!**

#### **Completion Message**

---

[O.33001]

**M hh:mm:ss xy,ww n[vv] RMV MC COND 00 COMPL**

#### **Denial Message**

---

[O.33001.01]

**M hh:mm:ss xy,ww n[vv] RMV MC COND cc DNY**

#### **Autonomous Message**

---

[O.33001]

**pahh:mm:ss xy,ww RMV MC COND cc COMPL**



### **Explanation Of Parameters**

---

**MC** - Main controller

**pa** - Priority of action

*pa* *Explanation*

**\*\*** Major

**I** Information

**cc** - Hexadecimal condition code

**cc** **Explanation**

**04** **Subject entity is out of service**

## **RMV,NPC,SIDE,INCL**

### **REMOVE NPCs**

#### **Explanation Of Command**

This command removes a single Network Processing Circuit (NPC) or a range of NPCs within a unit from service.

The NPCs can belong to a Facility Terminating Unit, a DS3 Unit or a Digital Signal Processing Unit. A range of NPCs cannot be specified for Digital Signal Processing Unit NPCs. The NPCs can belong to a Facility Terminating Unit, or a Digital Signal Processing Unit. When a range of NPCs is being removed, execution of this command may be aborted by entering **ABT**. When a range of NPCs is being removed, execution of this command may be aborted by entering **ABT -CMD**. The **INCL** keyword is required for removal of one or more cross-connected Network Processing Circuits with customer or red circuit marking.

**Note:** **INCL** is also required for subrate Network Processing Circuits with established channels (i.e., channels connected by the **SECH** command). The **INCL** keyword is required for removal of one or more cross-connected Network Processing Circuits with customer or red circuit marking.

**Note:** **INCL** is also required for subrate Network Processing Circuits with established channels (i.e., channels connected by the **CRTE CRS** command). The **INCL** keyword is required for removal of one or more cross-connected Network Processing Circuits with customer or red lined marking.

**Note:** **INCL** is also required for C-bit processing DSPU packs with C-bit connected channels.

One message segment is output for each Network Processing Circuit requested and successfully removed.

For NPCs with a Digital Signal Processing Unit (DSPU), this command results in the removal of all NPCs in the circuit pack on only one of the duplicated sides.

When an NPC restore command addresses a range of NPCs, the restoral of two or more consecutive NPCs in the range or even an entire Facility Terminating Module (FTM) of NPCs can be skipped, with a summary message, for the following conditions: A range command addressing NPCs within a Unit crosses an FTM boundary and the FTM is

unequipped; Addressed NPCs are unequipped; Addressed NPCs are out-of-service; Addressed NPCs have other conditions not involving a failure condition determined by diagnostics.

Specifically:

- (a) Restore commands where the address range crosses a Unit boundary shall be denied.
- (b) For restore commands which address a range of NPCs, denials for sets of two or more NPCs shall be output in a summary command. The summary denial shall use a floating window denial:

#### **Floating Window Denial Message**

When a restore command for a range of NPCs is denied for successive NPCs in the range for the same reason, a summary denial message shall be output, identifying the relevant range of NPCs and the reason. The generation of additional completion or denial responses for reasons other than diagnostic failure resumes at the next NPC and continues to the end of the range.

### **Command**

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#### **Nonhierarchical**

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[I.33351]

RMV:[FRM xy,SEQ ww]:NPC [s]abc[-[t]def][,SIDE s][,INCL]!

#### **Hierarchical**

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[I.33351]

RMV:[FRM xy,SEQ ww]:NPC uvmnp[-uvkqr][,SIDE s][,INCL]!

### **Completion Message**

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#### **Nonhierarchical**

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[O.33351]

M hh:mm:ss xy,ww n[vv] RMV NPC [s]ghi[ SIDE s] TYPE mnxyz[ INCL] \  
COND kk COMPL

### **Hierarchical**

---

[O.33351]

M hh:mm:ss xy,ww n[vv] RMV NPC uvghi[ SIDE s] TYPE mnxyz[ INCL] \  
COND kk COMPL

### **Denial Message**

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### **Nonhierarchical**

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[O.33351.01]

M hh:mm:ss xy,ww n[vv] RMV NPC [s]jkl[-[t]mno][ SIDE s] TYPE mnxyz\  
[ INCL] COND cc DNY

### **Hierarchical**

---

[O.33351.01]

M hh:mm:ss xy,ww n[vv] RMV NPC uvjkl[-uvmno][ SIDE s] TYPE mnxyz\  
[ INCL] COND cc DNY

### **Autonomous Message**

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### **Nonhierarchical**

---

[O.33351]

pahh:mm:ss xy,ww n[vv] RMV NPC [s]ghi[ SIDE s] TYPE mnxyz[ INCL] \  
COND kk COMPL

[O.33351.01]

pahh:mm:ss xy,ww n[vv] RMV NPC [s]jkl[ SIDE s] TYPE mnxyz[ INCL] \  
COND cc DNY

### **Hierarchical**

---

[O.33351]

pahh:mm:ss xy,ww n[vv] RMV NPC uvghi[ SIDE s] TYPE mnxyz[ INCL] \  
COND kk COMPL

[O.33351.01]

pahh:mm:ss xy,ww n[vv] RMV NPC uvjkl[ SIDE s] TYPE mnxyz[ INCL] \  
COND cc DNY

### Explanation Of Parameters

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number (beginning of the range).

**[t]def** - The 3- or 4-digit nonhierarchical NPC number (end of the range).

The allowable values are presented below:

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

**Note:** Only ODD NPC numbers are valid in the tables listed below. The even numbered NPC is not available for any other NPC type.

If NPC numbers are expressed in three digits, the valid values are:

SP type NPC numbers listed by unit number, Unit Type FT (FTU)

|                              |                              |                              |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
| <b>NPC</b><br><b>001-031</b> | <b>NPC</b><br><b>161-191</b> | <b>NPC</b><br><b>321-351</b> | <b>NPC</b><br><b>481-511</b> | <b>NPC</b><br><b>641-671</b> | <b>NPC</b><br><b>801-831</b> |
| <b>041-071</b>               | <b>201-231</b>               | <b>361-391</b>               | <b>521-551</b>               | <b>681-711</b>               | <b>841-871</b>               |
| <b>081-111</b>               | <b>241-271</b>               | <b>401-431</b>               | <b>561-591</b>               | <b>721-751</b>               | <b>881-911</b>               |
| <b>121-151</b>               | <b>281-311</b>               | <b>441-471</b>               | <b>601-631</b>               | <b>761-791</b>               | <b>921-951</b>               |

If NPC numbers are expressed in four digits, the valid values are:

SP type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0031</b> | <b>NPC</b><br><b>0161-0191</b> | <b>NPC</b><br><b>0321-0351</b> | <b>NPC</b><br><b>0481-0511</b> |
| <b>0041-0071</b>               | <b>0201-0231</b>               | <b>0361-0391</b>               | <b>0521-0551</b>               |
| <b>0081-0111</b>               | <b>0241-0271</b>               | <b>0401-0431</b>               | <b>0561-0591</b>               |
| <b>0121-0151</b>               | <b>0281-0311</b>               | <b>0441-0471</b>               | <b>0601-0631</b>               |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0671</b> | <b>NPC</b><br><b>0801-0831</b> | <b>NPC</b><br><b>0961-0991</b> | <b>NPC</b><br><b>1121-1151</b> |
| <b>0681-0711</b>               | <b>0841-0871</b>               | <b>1001-1031</b>               | <b>1161-1191</b>               |
| <b>0721-0751</b>               | <b>0881-0911</b>               | <b>1041-1071</b>               | <b>1201-1231</b>               |
| <b>0761-0791</b>               | <b>0921-0951</b>               | <b>1081-1111</b>               | <b>1241-1271</b>               |

| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1311</b> | <b>1441-1471</b> | <b>1601-1631</b> | <b>1761-1791</b> |
| <b>1321-1351</b> | <b>1481-1511</b> | <b>1641-1671</b> | <b>1801-1831</b> |
| <b>1361-1391</b> | <b>1521-1551</b> | <b>1681-1711</b> | <b>1841-1871</b> |
| <b>1401-1431</b> | <b>1561-1591</b> | <b>1721-1751</b> | <b>1881-1911</b> |
| <br>             |                  |                  |                  |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-1951</b> | <b>2081-2111</b> | <b>2241-2271</b> | <b>2401-2431</b> |
| <b>1961-1991</b> | <b>2121-2151</b> | <b>2281-2311</b> | <b>2441-2471</b> |
| <b>2001-2031</b> | <b>2161-2191</b> | <b>2321-2351</b> | <b>2481-2511</b> |
| <b>2041-2071</b> | <b>2201-2231</b> | <b>2361-2391</b> | <b>2521-2551</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| <br>             |                  |                  |                  |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |

|                  |                  |                  |                  |
|------------------|------------------|------------------|------------------|
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
|                  |                  |                  |                  |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

|            |            |            |            |            |            |
|------------|------------|------------|------------|------------|------------|
| Unit<br>1  | Unit<br>2  | Unit<br>3  | Unit<br>4  | Unit<br>5  | Unit<br>6  |
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| <b>001</b> | <b>161</b> | <b>321</b> | <b>481</b> | <b>641</b> | <b>801</b> |
| <b>021</b> | <b>181</b> | <b>341</b> | <b>501</b> | <b>661</b> | <b>821</b> |
| <b>041</b> | <b>201</b> | <b>361</b> | <b>521</b> | <b>681</b> | <b>841</b> |
| <b>061</b> | <b>221</b> | <b>381</b> | <b>541</b> | <b>701</b> | <b>861</b> |
| <b>081</b> | <b>241</b> | <b>401</b> | <b>561</b> | <b>721</b> | <b>881</b> |
| <b>101</b> | <b>261</b> | <b>421</b> | <b>581</b> | <b>741</b> | <b>901</b> |
| <b>121</b> | <b>281</b> | <b>441</b> | <b>601</b> | <b>761</b> | <b>921</b> |
| <b>141</b> | <b>301</b> | <b>461</b> | <b>621</b> | <b>781</b> | <b>941</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| Unit<br>1   | Unit<br>2   | Unit<br>3   | Unit<br>4   |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0001</b> | <b>0161</b> | <b>0321</b> | <b>0481</b> |
| <b>0021</b> | <b>0181</b> | <b>0341</b> | <b>0501</b> |
| <b>0041</b> | <b>0201</b> | <b>0361</b> | <b>0521</b> |
| <b>0061</b> | <b>0221</b> | <b>0381</b> | <b>0541</b> |
| <b>0081</b> | <b>0241</b> | <b>0401</b> | <b>0561</b> |
| <b>0101</b> | <b>0261</b> | <b>0421</b> | <b>0581</b> |
| <b>0121</b> | <b>0281</b> | <b>0441</b> | <b>0601</b> |
| <b>0141</b> | <b>0301</b> | <b>0461</b> | <b>0621</b> |



| Unit<br>5   | Unit<br>6   | Unit<br>7   | Unit<br>8   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0641</b> | <b>0801</b> | <b>0961</b> | <b>1121</b> |
| <b>0661</b> | <b>0821</b> | <b>0981</b> | <b>1141</b> |
| <b>0681</b> | <b>0841</b> | <b>1001</b> | <b>1161</b> |
| <b>0701</b> | <b>0861</b> | <b>1021</b> | <b>1181</b> |
| <b>0721</b> | <b>0881</b> | <b>1041</b> | <b>1201</b> |
| <b>0741</b> | <b>0901</b> | <b>1061</b> | <b>1221</b> |
| <b>0761</b> | <b>0921</b> | <b>1081</b> | <b>1241</b> |
| <b>0781</b> | <b>0941</b> | <b>1101</b> | <b>1261</b> |
| Unit<br>9   | Unit<br>10  | Unit<br>11  | Unit<br>12  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1281</b> | <b>1441</b> | <b>1601</b> | <b>1761</b> |
| <b>1301</b> | <b>1461</b> | <b>1621</b> | <b>1781</b> |
| <b>1321</b> | <b>1481</b> | <b>1641</b> | <b>1801</b> |
| <b>1341</b> | <b>1501</b> | <b>1661</b> | <b>1821</b> |
| <b>1361</b> | <b>1521</b> | <b>1681</b> | <b>1841</b> |
| <b>1381</b> | <b>1541</b> | <b>1701</b> | <b>1861</b> |
| <b>1401</b> | <b>1561</b> | <b>1721</b> | <b>1881</b> |
| <b>1421</b> | <b>1581</b> | <b>1741</b> | <b>1901</b> |
| Unit<br>13  | Unit<br>14  | Unit<br>15  | Unit<br>16  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1921</b> | <b>2081</b> | <b>2241</b> | <b>2401</b> |
| <b>1941</b> | <b>2101</b> | <b>2261</b> | <b>2421</b> |
| <b>1961</b> | <b>2121</b> | <b>2281</b> | <b>2441</b> |
| <b>1981</b> | <b>2141</b> | <b>2301</b> | <b>2461</b> |
| <b>2001</b> | <b>2161</b> | <b>2321</b> | <b>2481</b> |
| <b>2021</b> | <b>2181</b> | <b>2341</b> | <b>2501</b> |
| <b>2041</b> | <b>2201</b> | <b>2361</b> | <b>2521</b> |
| <b>2061</b> | <b>2221</b> | <b>2381</b> | <b>2541</b> |

**uvmnp** - Hierarchical NPC number (beginning of the range).

**uvkqr** - Hierarchical NPC number (end of the range).

**uv** - Unit number

**m, k** - Module number

**np, qr** - NPC number within the module

The allowable values are:

DE, DS, and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

**Note:** Only ODD NPC numbers are valid in the tables listed below. The even numbered NPC is not available for any other NPC type.

SP type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-31</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

|            |            |            |            |            |            |
|------------|------------|------------|------------|------------|------------|
| Unit<br>1  | Unit<br>2  | Unit<br>3  | Unit<br>4  | Unit<br>5  | Unit<br>6  |
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| <b>001</b> | <b>161</b> | <b>321</b> | <b>481</b> | <b>641</b> | <b>801</b> |
| <b>021</b> | <b>181</b> | <b>341</b> | <b>501</b> | <b>661</b> | <b>821</b> |
| <b>041</b> | <b>201</b> | <b>361</b> | <b>521</b> | <b>681</b> | <b>841</b> |
| <b>061</b> | <b>221</b> | <b>381</b> | <b>541</b> | <b>701</b> | <b>861</b> |
| <b>081</b> | <b>241</b> | <b>401</b> | <b>561</b> | <b>721</b> | <b>881</b> |
| <b>101</b> | <b>261</b> | <b>421</b> | <b>581</b> | <b>741</b> | <b>901</b> |
| <b>121</b> | <b>281</b> | <b>441</b> | <b>601</b> | <b>761</b> | <b>921</b> |
| <b>141</b> | <b>301</b> | <b>461</b> | <b>621</b> | <b>781</b> | <b>941</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

| Unit<br>1   | Unit<br>2   | Unit<br>3   | Unit<br>4   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0001</b> | <b>0161</b> | <b>0321</b> | <b>0481</b> |
| <b>0021</b> | <b>0181</b> | <b>0341</b> | <b>0501</b> |
| <b>0041</b> | <b>0201</b> | <b>0361</b> | <b>0521</b> |
| <b>0061</b> | <b>0221</b> | <b>0381</b> | <b>0541</b> |
| <b>0081</b> | <b>0241</b> | <b>0401</b> | <b>0561</b> |
| <b>0101</b> | <b>0261</b> | <b>0421</b> | <b>0581</b> |
| <b>0121</b> | <b>0281</b> | <b>0441</b> | <b>0601</b> |
| <b>0141</b> | <b>0301</b> | <b>0461</b> | <b>0621</b> |
| Unit<br>5   | Unit<br>6   | Unit<br>7   | Unit<br>8   |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0641</b> | <b>0801</b> | <b>0961</b> | <b>1121</b> |
| <b>0661</b> | <b>0821</b> | <b>0981</b> | <b>1141</b> |
| <b>0681</b> | <b>0841</b> | <b>1001</b> | <b>1161</b> |
| <b>0701</b> | <b>0861</b> | <b>1021</b> | <b>1181</b> |
| <b>0721</b> | <b>0881</b> | <b>1041</b> | <b>1201</b> |
| <b>0741</b> | <b>0901</b> | <b>1061</b> | <b>1221</b> |
| <b>0761</b> | <b>0921</b> | <b>1081</b> | <b>1241</b> |
| <b>0781</b> | <b>0941</b> | <b>1101</b> | <b>1261</b> |
| Unit<br>9   | Unit<br>10  | Unit<br>11  | Unit<br>12  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1281</b> | <b>1441</b> | <b>1601</b> | <b>1761</b> |
| <b>1301</b> | <b>1461</b> | <b>1621</b> | <b>1781</b> |
| <b>1321</b> | <b>1481</b> | <b>1641</b> | <b>1801</b> |
| <b>1341</b> | <b>1501</b> | <b>1661</b> | <b>1821</b> |
| <b>1361</b> | <b>1521</b> | <b>1681</b> | <b>1841</b> |
| <b>1381</b> | <b>1541</b> | <b>1701</b> | <b>1861</b> |
| <b>1401</b> | <b>1561</b> | <b>1721</b> | <b>1881</b> |
| <b>1421</b> | <b>1581</b> | <b>1741</b> | <b>1901</b> |

| Unit<br>13  | Unit<br>14  | Unit<br>15  | Unit<br>16  |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1921</b> | <b>2081</b> | <b>2241</b> | <b>2401</b> |
| <b>1941</b> | <b>2101</b> | <b>2261</b> | <b>2421</b> |
| <b>1961</b> | <b>2121</b> | <b>2281</b> | <b>2441</b> |
| <b>1981</b> | <b>2141</b> | <b>2301</b> | <b>2461</b> |
| <b>2001</b> | <b>2161</b> | <b>2321</b> | <b>2481</b> |
| <b>2021</b> | <b>2181</b> | <b>2341</b> | <b>2501</b> |
| <b>2041</b> | <b>2201</b> | <b>2361</b> | <b>2521</b> |
| <b>2061</b> | <b>2221</b> | <b>2381</b> | <b>2541</b> |

**SIDE** - Side

**s** - Side of duplicated DSPU circuit to be removed (0 or 1)

**INCL** - Inclusive

This keyword is required for removal of one or more NPCs which have cross-connections marked as customer or red. It is also required for Subrate NPCs with established channels. For Subrate circuit packs, there is only one NPC per circuit pack.

**pa** - Priority of action

**pa** *Explanation*

**\*C** Critical

**\*\*** Major

**[s]ghi** - The 3- or 4-digit nonhierarchical number of a successfully removed NPC.

(**[s]abc** through **[t]def**)

**[s]jkl** - The 3- or 4-digit nonhierarchical number of an NPC whose removal is denied.

If used in a range, it denotes the first NPC of the range.

(**[s]abc** through **[t]def**)

**[t]mno** - The 3- or 4-digit nonhierarchical number of an NPC whose removal is denied.

It denotes the last NPC of a range. (**[s]abc** through **[t]def**)

**uvghi** - Hierarchical number of a successfully removed NPC.

(**uvmnp** through **uvkqr**)

**uvjkl** - Hierarchical number of an NPC whose removal is denied.

If used in a range, it denotes the first NPC of the range.

(**uvmnp** through **uvkqr**)

**uvmno** - Hierarchical number of an NPC whose removal is denied.

It denotes the last NPC of a range. (**uvmnp** through **uvkqr**)

**uv** - Unit number

**m, g, k, j**

- Module number

**np, qr, hi, kl, no**

- NPC number within the module

**TYPE** - Type

**mnxyz** - NPC-type identifier

mn Explanation

DA Dual digroup ANSI NPC

DE Dual digroup NPC

DS SLC® carrier NPC

SP Digital Signal Processing Circuit Pack

TA DS3U ANSI NPC

TE DS3U Noninterface unit NPC

MB Digital multipoint bridge NPC

MJ Multipoint junction unit NPC

SR Subrate multiplexer unit NPC

DE-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | Not assigned                                     |
| <b>1</b>   | D4                                               |
| <b>2</b>   | ESF - Voice                                      |
| <b>3</b>   | ESF - Data                                       |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24)    |
| <b>5-7</b> | Not assigned                                     |
| <b>8</b>   | Ericsson Cellular format                         |
| <b>9</b>   | No framing format, transparent (TRSP), clear-DS1 |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                        |
|------------|-----------------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                               |
| <b>1*</b>  | NZCS - No zero code suppression                           |
| <b>2*</b>  | B8ZS - Bipolar with 8 zero substitution                   |
| <b>3†</b>  | ZBTSI - Zero-bit time-slot interchanger                   |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling             |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling         |
| <b>6</b>   | B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling |
| <b>7-9</b> | Not assigned                                              |

\* Only options 1 and 2 are applicable to DE-type clear-DS1 NPC.

† Only valid with ESF (x = 2 or 3)

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                     |
|------------|----------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering      |
| <b>1</b>   | D2 channel bank channel numbering      |
| <b>2</b>   | D1D channel bank channel numbering     |
| <b>3-8</b> | Not assigned                           |
| <b>9</b>   | No channel numbering format, clear-DS1 |

DS-type xyz fields

**x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>               |
|------------|----------------------------------|
| <b>0</b>   | Not assigned                     |
| <b>1</b>   | D4                               |
| <b>2</b>   | ESF - Voice                      |
| <b>3</b>   | Not assigned                     |
| <b>4</b>   | Not assigned                     |
| <b>5</b>   | Not assigned                     |
| <b>6</b>   | SLC® 96 carrier Fs               |
| <b>7</b>   | SLC 5 carrier ESF with data link |
| <b>8-9</b> | Not assigned                     |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                      |
|------------|-----------------------------------------|
| <b>0</b>   | Zero code suppression (ZCS)             |
| <b>1</b>   | No zero code suppression (NZCS)         |
| <b>2</b>   | Bipolar with 8 zero substitution (B8ZS) |
| <b>3-9</b> | Not assigned                            |

**z** - Counting sequence format

| <b>z</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | SLC 96 carrier Mode III D4 counting sequence  |
| <b>1</b>   | SLC 96 carrier Mode III D1D counting sequence |
| <b>2</b>   | SLC 96 carrier Mode I D1D counting sequence   |
| <b>3</b>   | SLC Series 5 carrier D4 counting sequence     |
| <b>4-9</b> | Not assigned                                  |

DA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                        |
|------------|-----------------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                               |
| <b>1*</b>  | NZCS - No zero code suppression                           |
| <b>2*</b>  | B8ZS - Bipolar with 8 zero substitution                   |
| <b>3</b>   | Not assigned                                              |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling             |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling         |
| <b>6</b>   | B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling |
| <b>7-9</b> | Not assigned                                              |

\* Only options 1 and 2 are applicable to DA-type clear-DS1 NPC.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering                |
| <b>1</b>   | D2 channel bank channel numbering                |
| <b>2</b>   | D1D channel bank channel numbering               |
| <b>3-8</b> | Not assigned                                     |
| <b>9</b>   | Unchannelized 193-bit Clear DS1 Cross-connection |



DA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a DA NPC with both a valid framing format (D4, ESF, T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the DA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II FTU, the NPC must be provisioned as NPC type **DE9y9**.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the DA NPC type. If ZBTSI is desired on an NPC in a DACS II FTU, the NPC must be provisioned as a DE NPC type with its **y** option selecting ZBTSI (**DEx3z**).

#### SP-type xyz fields

- x** - Fixed at 1
- y** - Fixed at 0
- z** - Fixed at 0

#### TE-type xyz fields

- x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | Not assigned                                     |
| <b>1</b>   | D4                                               |
| <b>2</b>   | ESF - Voice                                      |
| <b>3</b>   | ESF - Data                                       |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24)    |
| <b>5-7</b> | Not assigned                                     |
| <b>8</b>   | Ericsson Cellular format                         |
| <b>9</b>   | No framing format, transparent (TRSP), clear-DS1 |

**y** - Line and signaling format

**y**      *Explanation*

- 0**      ZCS - Zero code suppression
- 1\***     NZCS - No zero code suppression
- 2**      Not assigned
- 3**      Not assigned
- 4**      ZCS/DMI - Zero code suppression/DMI signaling
- 5**      NZCS/DMI - No zero code suppression/DMI signaling
- 6-9**   Not assigned

\* Only option 1 is applicable to TE-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format

**z**      *Explanation*

- 0**      D4 channel bank channel numbering
- 1**      D2 channel bank channel numbering
- 2**      D1D channel bank channel numbering
- 3-8**   Not assigned
- 9**      No channel numbering format, clear-DS1

TA-type xyz fields

**x** - Multiframe format for the digroup

**x**      *Explanation*

- 0**      Not assigned
- 1**      D4
- 2**      ESF - Voice
- 3**      ESF - Data
- 4**      DDST (T1DM - R bit connection via channel 24)
- 5-7**   Not assigned
- 8**      Ericsson Cellular format
- 9**      Not assigned

**y** - Line and signaling format

**y** *Explanation*

- 0** ZCS - Zero code suppression
- 1\*** NZCS - No zero code suppression
- 2** Not assigned
- 3** Not assigned
- 4** ZCS/DMI - Zero code suppression/DMI signaling
- 5** NZCS/DMI - No zero code suppression/DMI signaling
- 6-9** Not assigned

\* Only option 1 is applicable to TA-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

**z** - Channel numbering format

**z** *Explanation*

- 0** D4 channel bank channel numbering
- 1** D2 channel bank channel numbering
- 2** D1D channel bank channel numbering
- 3-8** Not assigned
- 9** Unchannelized 193-bit Clear DS1 Cross-connection

TA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a TA NPC with both a valid framing format (D4,ESF,T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the TA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as NPC type TE919.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the TA NPC type. If ZBTSI is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as a TE NPC type with its **y** option selecting ZBTSI (**TE<sub>x</sub>3z**).

MB-type xyz fields

- x** - Fixed at 1
- y** - Fixed at 0
- z** - Fixed at 0

SR- and MJ-type xyz fields

**x** - Fixed at 1

**y** - Fixed at 0

**z** - Fixed at 0

**COND** - Condition

**kk** - Hexadecimal completion code  
See cc to interpret values.

**cc** - Hexadecimal condition code

**cc Explanation**

|    |                                                                      |
|----|----------------------------------------------------------------------|
| 00 | No conditions                                                        |
| 02 | Subject entity is not equipped                                       |
| 04 | Subject entity is out of service                                     |
| 10 | Unit is not equipped                                                 |
| 11 | UC is out of service                                                 |
| 12 | UC is in service but failed                                          |
| 13 | FTMI is not equipped                                                 |
| 14 | FTMI is out of service                                               |
| 15 | NPC is unequipped                                                    |
| 19 | Mate CCN side is out of service                                      |
| 1E | Customer control or red circuit exists                               |
| 1F | FTMI is in service but failed                                        |
| 37 | DSPI out-of-service                                                  |
| 3E | DSPI failed                                                          |
| 5C | NPC providing timing to inservice SSP                                |
| 86 | Attempt to remove DGA w/o INCL keyword or<br>prior prot. sw. request |
| 8E | DGA protected; use INCL to remove, or<br>unswitch protection         |
| 9B | INCL must be specified for SRDC ckts                                 |
| F2 | Invalid NPC number specified                                         |
| FD | NPC range crosses unit boundary                                      |
| A0 | The selected MXR associated with the NPC is<br>Out-Of-Service        |

**cc Explanation**

- A1 The selected MXR associated with the NPC is In-Service but failed**
- A3 The selected MIU associated with the NPC is In-Service but failed**
- B7 The associated MXR is In-Service but pested**
- 69 Use of this NPC is RESERVED for SLC 96 MD 1**

## **RMV,SMEM,PMEM**

### **REMOVE PMEM OR SMEM**

#### **Explanation Of Command**

This message removes the Primary Memory card (PMEM) or Secondary Memory card (SMEM) from service.

The PMEM card may only be removed when the main controller (MC) is in maintenance condition (MCOND). The SMEM card may be removed when the MC is in service (IS) or MCOND.

If either card fails autonomously, they are removed by software. However, if the PMEM fails autonomously, the MC will first go into MCOND.

If the SMEM is removed manually, it is removed by software also. Removing the SMEM card will not change the state of the MC. When the MC is IS, all writes to the card will be completed before the this command completes.

#### **Command**

[I.33211]

**RMV:FRM xy,SEQ ww:{SMEM|PMEM}!**

#### **Completion Message**

[O.33211]

**M hh:mm:ss xy,ww n[vv] RMV {PMEM|SMEM} COMPL**

#### **Denial Message**

[O.33211.01]

**M hh:mm:ss xy,ww n[vv] RMV {PMEM|SMEM} COND cc DNY**

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**PMEM** - Primary memory.

**SMEM** - Secondary memory.

**COND** - Condition

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>Explanation</b> |
|-----------|--------------------|
|-----------|--------------------|

|           |                                            |
|-----------|--------------------------------------------|
| <b>03</b> | <b>Subject entity is in service</b>        |
| <b>0B</b> | <b>BOOT on subject entity failed</b>       |
| <b>8B</b> | <b>PMEM not in service or not ready</b>    |
| <b>F1</b> | <b>PMEM and SMEM synchronization fail</b>  |
| <b>F2</b> | <b>Not a DACS II compatible Flash Card</b> |
| <b>F3</b> | <b>Flash Card is empty</b>                 |
| <b>F4</b> | <b>PMEM and SMEM are different</b>         |
| <b>F5</b> | <b>Flash Card is not present</b>           |
| <b>F6</b> | <b>Flash Card is bad</b>                   |

## **RMV,SYNC**

---

### **REMOVE SYNCHRONIZER**

#### **Explanation Of Command**

---

This command is used to remove the synchronizer from service. This includes the timing extractor circuit, the phase-locked loop, the clock generator circuit, and the service and reply circuit.

If the mate synchronizer is not available for switchover, this message will be denied.

#### **Command**

---

[I.33101]

RMV:FRM xy,SEQ ww:SYNC a!

#### **Completion Message**

---

[O.33101]

pahh:mm:ss xy,ww n[vv] RMV SYNC a COND 00 COMPL

#### **Denial Message**

---

[O.33101.01]

pahh:mm:ss xy,ww n[vv] RMV SYNC a COND cc DNY

#### **Autonomous Message**

---

Not applicable.



### **Explanation Of Parameters**

---

**SYNC** - Synchronizer

**a** - Synchronizer side (0 or 1)

**pa** - Priority of action.

*pa*      *Explanation*

\*\*      Major

M      Manual

\*C      Critical

**COND** - Condition

**cc** - Hexadecimal condition code

**cc**      **Explanation**

**02**      **Subject entity is not equipped**

**04**      **Subject entity is out of service**

**19**      **Mate CCN side is out of service**

**1A**      **Mate SYNC is out of service**

**31**      **Failed to switch SYNC side**

**AB**      **Bad sync mode**

## **RMV,SYNC,TLI,CRO**

**REMOVE SYNCHRONIZER TIME BASE AS A CLOCK  
REFERENCE OSCILLATOR**

### **Explanation Of Command**

This command requests the removal of the synchronizer time base as a clock reference oscillator.

### **Command**

[I.33111]

**RMV:FRM xy,SEQ ww:SYNC,TLI 3,CRO!**

### **Completion Message**

[O.33111]

**M hh:mm:ss xy,ww n[vv] RMV SYNC TLI 3 CRO COND 00 COMPL**

### **Denial Message**

[O.33111.01]

**M hh:mm:ss xy,ww n[vv] RMV SYNC TLI 3 CRO COND cc DNY**

### **Autonomous Message**

[O.33111]

**I hh:mm:ss xy,ww RMV SYNC a TLI m[ CRO] COND 00 COMPL**

[O.33111.01]

**I** hh:mm:ss xy,ww    **RMV SYNC a TLI m[ CRO] COND cc DNY**

### **Explanation Of Parameters**

---

**SYNC**    - Synchronizer

**a**        - Synchronizer number (0 or 1)

**TLI**      - Timing link interface

**m**        - TLI number (1 through 4)

**CRO**      - Clock Reference Oscillator

**COND**    - Condition

**cc**       - Hexadecimal condition code

#### **cc    Explanation**

**02    Subject entity is not equipped**

**04    Subject entity is out of service**

**33    Wrong TLI type**

**A9    Both syncs are out-of-service**

## **RMV,SYNC,TLI,SSP**

### **REMOVE SYNCHRONIZER'S TLI OR SSP**

#### **Explanation Of Command**

This message requests the removal of the synchronizer's timing link interface from service.

If the timing link interface was configured as a timing extractor, synchronizer sync Port 0 or 1 must also be specified.

#### **Command**

[I.33121]

**RMV:FRM xy,SEQ ww:SYNC a,TLI m[,SSP b]!**

#### **Completion Message**

[O.33121]

**M hh:mm:ss xy,ww n[vv] RMV SYNC a TLI m[ SSP b] COND cc \**  
**COMPL**

#### **Denial Message**

[O.33121.01]

**M hh:mm:ss xy,ww n[vv] RMV SYNC a TLI m[ SSP b] COND cc DNY**

#### **Autonomous Message**

[O.33121]

**I hh:mm:ss xy,ww RMV SYNC a TLI m[ SSP b[ c]] COND 00 COMPL**

[O.33121.01]

**I** hh:mm:ss xy,ww    **RMV SYNC a TLI m[ SSP b[ c]] COND cc DNY**

### **Explanation Of Parameters**

---

**SYNC**    - Synchronizer

**a**        - SYNC number (0 or 1)

**TLI**      - Timing Link Interface

**m**        - TLI number (1 through 4)

**SSP**      - Synchronizer Sync Port

**b, c**      - SSP number of TLI-m (0 or 1)

Only a single SSP, "b", can be specified in the input command. Two SSPs, "b" and "c", can appear in an autonomous removal message.

**cc**        - Hexadecimal condition code

#### **cc    Explanation**

**02**    Subject entity is not equipped

**04**    Subject entity is out of service

**16**    SYNC TB is not equipped

**17**    SYNC is out of service

**33**    Wrong TLI type

**BE**    Hardware mismatch or not present

**C8**    Sync pack denied command

## **RMV,TSI**

---

### **REMOVE TIME SLOT INTERCHANGE**

#### **Explanation Of Command**

---

This command applies only to a noncapacity expansion frame (NCEF).

It requests the removal of the time slot interchange (TSI) from service.

If the TSI on the other side has already been removed this command will be denied unless there are no provisioned circuits for this TSI.

#### **Command**

---

[I.33221]

**RMV:FRM xy,SEQ ww:TSI sft!**

#### **Completion Message**

---

[O.33221]

**M hh:mm:ss xy,ww n[vv] RMV TSI sft COND cc COMPL**

#### **Denial Message**

---

[O.33221.01]

**pahh:mm:ss xy,ww n[vv] RMV TSI sft COND cc DNY**

#### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**TSI** - Time slot interchange  
**s** - Side number (0 or 1)  
**f** - Cross-connect buffer (CCB) number (1 through 6)  
**t** - TSI number (1 through 6)

**pa** - Priority of action

|           |                    |
|-----------|--------------------|
| <i>pa</i> | <i>Explanation</i> |
|-----------|--------------------|

|    |        |
|----|--------|
| ** | Major  |
| M  | Manual |

**COND** - Condition

**cc** - Hexadecimal condition code

|           |                    |
|-----------|--------------------|
| <b>cc</b> | <b>Explanation</b> |
|-----------|--------------------|

|           |                                         |
|-----------|-----------------------------------------|
| <b>02</b> | <b>Subject entity is not equipped</b>   |
| <b>04</b> | <b>Subject entity is out of service</b> |
| <b>19</b> | <b>Mate CCN side is out of service</b>  |

## **RMV,TSIS,CCN,ALL**

### **REMOVE**

#### **Explanation Of Command**

This command is applicable only to a noncapacity expansion frame (NCEF).

It requests the removal of all in-service time slot interchanges in the cross-connect network side.

This message will be denied if the cross-connect network side specified is the active side and any time slot interchange on the inactive side is out of service. The exception to this is if there are no cross-connected circuits in the system.

#### **Command**

[I.33241]

**RMV:FRM xy,SEQ ww:TSIS,CCN s,ALL!**



---

### Completion Message

[O.33241]

M hh:mm:ss xy,ww n[vv] RMV TSIS ALL 5 LN MSG:  
TOTAL TSIS tt  
sft r nn sft r nn sft r nn sft r nn sft r nn sft r nn  
sft r nn sft r nn sft r nn sft r nn sft r nn sft r nn  
sft r nn sft r nn sft r nn sft r nn sft r nn sft r nn  
EOP

M hh:mm:ss xy,ww n[vv] RMV TSIS ALL 5 LN MSG:  
TOTAL TSIS tt  
sft r nn sft r nn sft r nn sft r nn sft r nn sft r nn  
sft r nn sft r nn sft r nn sft r nn sft r nn sft r nn  
sft r nn sft r nn sft r nn sft r nn sft r nn sft r nn  
COND cc COMPL

---

### Denial Message

[O.33241.01]

M hh:mm:ss xy,ww n[vv] RMV TSIS CCN s ALL COND cc DNY

---

### Autonomous Message

Not applicable.

---

### Explanation Of Parameters

**TSIS** - Time slot interchanges

**CCN** - Cross-connect network

**s** - CCN side (0 or 1)

**ALL** - All

**TOTAL** - Total

**f** - Cross-connect buffer number (1 through 6)

**t** - TSI number (1 through 6)

**tt** - Number of TSIs currently in service (01 through 72)

**r** - Status of the removal request for the particular TSI

*r*      *Explanation*

C      COMPL

D      DNY

**nn** - Hexadecimal condition code for the particular TSI

See cc below to interpret values of nn.

**COND** - Condition

**cc** - Completion condition code

See cc below to interpret values of cc.

**cc** - Hexadecimal condition code

**cc**      *Explanation*

**00**      No conditions

**02**      Subject entity is not equipped

**04**      Subject entity is out of service

**18**      CCNI is out of service

**19**      Mate CCN side is out of service

## **RMV,TSIS,CCN,UNIT,CONN**

### **REMOVE**

#### **Explanation Of Command**

This command is applicable only to a noncapacity expansion frame (NCEF).

This message allows removal of all time slot interchanges (TSI) that connect the specified unit to the indicated units, one of which may be the specified unit in cross-connect network side 0 or 1 through use of the optional field. If the field is omitted, then all TSIs connected to the specified unit are removed.

Note that if the TSI on the other CCN side has already been removed, this command will be executed only if no circuits are cross-connected through the TSI. The reason for allowing removal on both sides is to degrow the UNIT or change its connectivity.

#### **Command**

[I.33231]

```
RMV:FRM xy,SEQ ww:TSIS,CCN s,UNIT q\  
[,CONN(a[,b[,c[,d[,e[,f]]]])))]!
```

#### **Completion Message**

[O.33231]

```
M hh:mm:ss xy,ww n[vv] RMV TSIS UNIT q\  
[ CONN (a[ b[ c[ d[ e[ f]]]]))]  
e LN MSG:  
sft r nn sft r nn sft r nn sft r nn sft r nn sft r nn  
sft r nn sft r nn sft r nn sft r nn sft r nn sft r nn \  
COND 00 COMPL
```

## Denial Message

---

[O.33231.01]

M hh:mm:ss xy,ww n[vv] RMV TSIS CCN s UNIT q\  
[ CONN (a[ b[ c[ d[ e[ f]]]]))] COND cc DNY

## Autonomous Message

---

Not applicable.

## Explanation Of Parameters

---

**e** - Number of lines in the message segment

**TSIS** - Time slot interchanges

**CCN** - Cross-connect network

**s** - Side number (0 or 1).

**UNIT** - Unit

**q** - Unit number containing TSIs (1 through 6).

**CONN** - Connect

**a, b, c, d, e, f**

- Unit number to which UNIT q can be connected (1 through 6).

**sft** - TSI identifier

**s** - Side number (0 or 1)

**f** - CCB (Cross-Connect Buffer) number (1 through 6)

**t** - TSI number (1 through 6).

**r** - Status code

*r Explanation*

C COMPL

D DNY

**nn** - Hexadecimal condition code for the particular TSI.

For r = C

| <i>nn</i> | <i>Explanation</i> |
|-----------|--------------------|
| 00        | No Condition       |

For r = D

| <i>nn</i> | <i>Explanation</i>               |
|-----------|----------------------------------|
| 02        | Subject entity is not equipped   |
| 04        | Subject entity is out of service |

**COND** - Condition

**cc** - Hexadecimal condition code

**cc**    *Explanation*

|           |                                        |
|-----------|----------------------------------------|
| <b>04</b> | Subject entity is out of service       |
| <b>10</b> | Unit is not equipped                   |
| <b>18</b> | CCNI is out of service                 |
| <b>19</b> | Mate CCN side is out of service        |
| <b>28</b> | Connectivity contains unequipped units |

## **RMV,UNIT,FC**

### **REMOVE UNIT FORMAT CONVERTER**

#### **Explanation Of Command**

This message requests removal of the unit format converter from service.

#### **Command**

[I.33331]

RMV:FRM xy,SEQ ww:UNIT [q]q,FC sb!

#### **Completion Message**

[O.33331]

M hh:mm:ss xy,ww n[vv] RMV UNIT [q]q FC sb COND cc COMPL

#### **Denial Message**

[O.33331.01]

pahh:mm:ss xy,ww n[vv] RMV UNIT [q]q FC sb COND cc DNY

#### **Autonomous Message**

[O.33331]

pahh:mm:ss xy,ww n[vv] RMV UNIT [q]q FC sb COND cc COMPL

[O.33331.01]

\*Chh:mm:ss xy,ww n[vv] RMV UNIT [q]q FC sb COND cc DNY

### **Explanation Of Parameters**

---

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**FC** - Format converter

**s** - Side number (0 or 1)

**b** - FC number (1 through 4)

**pa** - *Priority of action*

pa Explanation

\*\* Major

\*C Critical

I Information

**COND** - Condition

**cc** - Completion condition code

Explanations of these codes are given in the explanation of cc below.

**cc** - Hexadecimal condition code

**cc Explanation**

**04 Subject entity is out of service**

**10 Unit is not equipped**

**11 UC is out of service**

**12 UC is in service but failed**

**13 FTMI is not equipped**

**14 FTMI is out of service**

**19 Mate CCN side is out of service**

**1F FTMI is in service but failed**

## **RMV,UNIT,FLI**

### **REMOVE FACILITY LINE INTERFACE**

#### **Explanation Of Command**

This command requests and reports the removal of one facility line interface (FLI) in a DS3 unit. The removal can be caused by either a manual request or autonomously by error recovery.

A request for removal of a FLI will cause a protection switch. A request to remove an unprotected FLI will be denied unless no service multiplexer (MXR) or protection MIU is equipped and the protection MMFG is out-of-service in that DS3 unit.

This message also reports an unsuccessful automatic attempt to remove an unprotected FLI, which will cause a critical alarm.

#### **Command**

[I.33401]

**RMV:FRM xy,SEQ ww:UNIT [q]q,FLI k!**

#### **Completion Message**

[O.33401]

**M hh:mm:ss xy,ww n[vv] RMV UNIT [q]q FLI k COMPL**

#### **Denial Message**

[O.33401.01]

**M hh:mm:ss xy,ww n[vv] RMV UNIT [q]q FLI k COND cc DNY**



### **Autonomous Message**

---

[O.33401]

**\*\*hh:mm:ss xy,ww RMV UNIT [q]q FLI k COMPL**

[O.33401.01]

**\*Chh:mm:ss xy,ww RMV UNIT [q]q FLI k COND cc DNY**

### **Explanation Of Parameters**

---

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**FLI** - Facility line interface

**k** - FLI identifier

*k Explanation*

S Service FLI

P Protection FLI

**COND** - Condition

**cc** - Hexadecimal condition code

**cc Explanation**

**02** Subject entity is not equipped

**04** Subject entity is out of service

**10** Unit is not equipped

**11** UC is out of service

**12** UC is in service but failed

**37** Major/Minor BER threshold value is invalid  
for SLC NPCs

**35** The mate FLI is OOS and Protection MIU is  
equipped

**36** The mate FLI is OOS and Protection MXR is IS

**37** The mate FLI is OOS and at least one Service  
MXR is equipped

**38** The selected FLI is IS and Pested and at  
least 1 Service MXR is eqd

**39** An autonomous switch is in progress

**B0** FLI is out of service

## **RMV,UNIT,FMT**

### **REMOVE FORMATTER**

#### **Explanation Of Command**

This command requests and reports the removal of one formatter (FMT) in a DS3 unit. The removal can be either manually by a command or autonomously by error recovery.

A successful request to remove an FMT will automatically cause a switch to the other cross-connect side. A request for removal of an FMT will be denied if the switch to the other cross-connect side is not possible. The output of this command also reports an unsuccessful automatic attempt to remove an unprotected FMT. The removal of both FMTs will automatically come into effect when the unit is degrown.

#### **Command**

[I.33411]

**RMV:FRM xy,SEQ ww:UNIT [q]q,FMT s!**

#### **Completion Message**

[O.33411]

**M hh:mm:ss xy,ww n[vv] RMV UNIT [q]q FMT s COMPL**

#### **Denial Message**

[O.33411.01]

**M hh:mm:ss xy,ww n[vv] RMV UNIT [q]q FMT s COND cc DNY**

### **Autonomous Message**

---

[O.33411]

**pahh:mm:ss xy,ww RMV UNIT [q]q FMT s COMPL**

[O.33411.01]

**pahh:mm:ss xy,ww RMV UNIT [q]q FMT s COND cc DNY**

### **Explanation Of Parameters**

---

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**FMT** - Formatter

**s** - Side

| <i>s</i> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|   |        |
|---|--------|
| 0 | Side 0 |
|---|--------|

|   |        |
|---|--------|
| 1 | Side 1 |
|---|--------|

**pa** - Priority of action

| <i>pa</i> | <i>Priority</i> |
|-----------|-----------------|
|-----------|-----------------|

|    |          |
|----|----------|
| *C | Critical |
|----|----------|

|    |       |
|----|-------|
| ** | Major |
|----|-------|

|   |        |
|---|--------|
| M | Manual |
|---|--------|

**OOS** - Out-of-service

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>Explanation</b> |
|-----------|--------------------|
|-----------|--------------------|

|           |                                       |
|-----------|---------------------------------------|
| <b>02</b> | <b>Subject entity is not equipped</b> |
|-----------|---------------------------------------|

|           |                                         |
|-----------|-----------------------------------------|
| <b>04</b> | <b>Subject entity is out of service</b> |
|-----------|-----------------------------------------|

|           |                             |
|-----------|-----------------------------|
| <b>10</b> | <b>Unit is not equipped</b> |
|-----------|-----------------------------|

|           |                             |
|-----------|-----------------------------|
| <b>11</b> | <b>UC is out of service</b> |
|-----------|-----------------------------|

|           |                                    |
|-----------|------------------------------------|
| <b>12</b> | <b>UC is in service but failed</b> |
|-----------|------------------------------------|

|           |                                        |
|-----------|----------------------------------------|
| <b>19</b> | <b>Mate CCN side is out of service</b> |
|-----------|----------------------------------------|

|           |                              |
|-----------|------------------------------|
| <b>B1</b> | <b>FMT is out of service</b> |
|-----------|------------------------------|

## **RMV,UNIT,FTMI,DSPI**

### **REMOVE FTMI OR DSPI**

#### **Explanation Of Command**

This message allows removal of a facility terminating module interface or a digital signal processor interface from service.

#### **Command**

[I.33321]

RMV:FRM xy,SEQ ww:UNIT [q]q,{FTMI d|DSPI}!

#### **Completion Message**

[O.33321]

M hh:mm:ss xy,ww n[vv] RMV UNIT [q]q {FTMI d|DSPI} \  
COND cc COMPL

#### **Denial Message**

[O.33321.01]

M hh:mm:ss xy,ww n[vv] RMV UNIT [q]q {FTMI d|DSPI} COND cc \  
DNY

#### **Autonomous Message**

[O.33321]

\* hh:mm:ss xy,ww n[vv] RMV UNIT [q]q {FTMI d|DSPI} \  
COND cc COMPL

[O.33321.01]

\* hh:mm:ss xy,ww n[vv] RMV UNIT [q]q {FTMI d|DSPI} \  
COND cc DNY

### **Explanation Of Parameters**

---

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**FTMI** - Facility terminating module interface

**d** - FTMI number (1 through 4)

**DSPI** - Digital signal processor interface

**OOS** - Out-of-service

**cc** - Completion condition code (hexadecimal)

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>Explanation</b> |
|-----------|--------------------|
|-----------|--------------------|

|           |                                         |
|-----------|-----------------------------------------|
| <b>02</b> | <b>Subject entity is not equipped</b>   |
| <b>04</b> | <b>Subject entity is out of service</b> |
| <b>10</b> | <b>Unit is not equipped</b>             |
| <b>11</b> | <b>UC is out of service</b>             |
| <b>12</b> | <b>UC is in service but failed</b>      |

## **RMV,UNIT,MIU,INCL**

### **REMOVE MULTIPLEXER INTERFACE UNIT**

#### **Explanation Of Command**

This message removes from service one or more Multiplexer Interface Unit (MIU) circuit packs in a DS3 unit. Using the INCL (inclusive) option, this remove command removes all TA-type NPCs associated with the MIU. Executing this command results in protection switching if any TA-type NPCs are in-service. TA type NPCs provide ESF data link communications according to the ANSI T1.403-1989 standard and enhanced performance monitoring.

**Note:** This command can not be generated autonomously.

A **RMV IN PROGRESS** message will be generated at 20-second intervals while this command is being executed.

There will be one completion or denial output message for each circuit pack removed.

#### **Command**

[I.33431]

**RMV:FRM xy,SEQ ww:UNIT [q]q,MIU c[-d][,INCL]!**

#### **Completion Message**

[O.33431]

**M hh:mm:ss xy,ww n[vv] RMV UNIT [q]q MIU a[ INCL] TYPE MI100 \**  
**COMPL**

### **Denial Message**

---

[O.33431.01]

**M** hh:mm:ss xy,ww n[vv] **RMV UNIT** [q]q **MIU a**[ **INCL**] **COND cc DNY**

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**MIU** - Multiplexer interface unit

**c, d** - The number of the MIU within the unit (P,1 through 6) (P means the protection MIU)

**a** - The MIU number within the range of c and d.

**INCL** - Inclusive

This keyword will cause the removal of all TA type NPCs served by the MIU.

**cc** - Hexadecimal condition code

**cc**    *Explanation*

**10**    Unit is not equipped

**11**    UC is out of service

**12**    UC is in service but failed

**24**    Unit type error

**BF**    MIU is not equipped

**9D**    Attempt to remove a Service MIU which is under protection

**A9**    INCL not specified and at least one NPC In Service

**CF**    MIU is out of service

## **RMV,UNIT,MMFG,FRC,INCL**

### **REMOVE MMFG**

#### **Explanation Of Command**

This command requests and reports the removal of the circuit packs of one or more Multiplexer - Multiplexer Interface Unit Functional Group (MMFG). The removal of an MMFG can be caused either by manual command or autonomous DACS II error recovery action.

An **RMV MMFG** command will remove the Multiplexer (MXR) and the Multiplexer Interface Unit (MIU) if the MIU is in-service. A manual removal request of an MMFG will cause protection switching if protection is available. However, the automatic switch to protection (or the automatic switchback in the case of protection MMFGs) can be inhibited by specifying the FRC option, which can result in loss of service. The FRC option must be used to request the unprotected removal of an MMFG. Any resulting loss of service will not cause an alarm. An attempt to remove more than one MMFG without the FRC option will be denied.

The Inclusive (INCL) keyword must be used if at least one of the DS3's tributary NPCs is in service. This option will remove the NPCs together with the MMFG.

This command also reports the unsuccessful automatic attempt to remove an unprotected MMFG, which will cause a critical alarm. An **RMV IN PROGRESS** message will be generated at 20-second intervals while this command is being executed. There will be one completion or denial output message for each circuit pack removed.

#### **Command**

[I.33421]

**RMV:FRM xy,SEQ ww:UNIT [q]q,MMFG c[-d][,FRC[,INCL]]!**



### **Completion Message**

---

[O.33421]

M hh:mm:ss xy,ww n[vv] RMV UNIT [q]q MMFG a[ FRC[ INCL]] \\  
2 LN MSG:  
MXR a TYPE mnxyz[ MIU a TYPE MI100] COMPL

### **Denial Message**

---

[O.33421.01]

M hh:mm:ss xy,ww n[vv] RMV UNIT [q]q MMFG a[ FRC[ INCL]] \\  
COND cc DNY

### **Autonomous Message**

---

[O.33421]

\*\*hh:mm:ss xy,ww RMV UNIT [q]q MMFG a[ FRC[ INCL]] 2 LN MSG:  
MXR a TYPE mnxyz[ MIU a TYPE MI100] COMPL

[O.33421.01]

\*Chh:mm:ss xy,ww RMV UNIT [q]q MMFG a[ FRC[ INCL]] COND cc \\  
DNY

### **Explanation Of Parameters**

---

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**MMFG** - Multiplexer-Multiplexer Interface Unit functional group.

**c, d** - The number of the MMFG within the unit (P,1 through 6) (P means the protection MMFG)

**a** - The number of the MMFG that is removed or denied (c or d)

**FRC** - Force

This keyword will force a manual removal (in the case that protection is not available) and will prevent automatic protection switching from accompanying the removal, thus forcing the removal of all the DS1 facilities served by the MMFG.

**INCL** - Inclusive

This keyword will cause all tributary NPCs which are still in service to be removed. A command with the INCL keyword must also contain the FRC keyword or it will be denied by DACS II.

**\*C** - Critical priority of action

**\*\*** - Major priority of action

**M** - Manual priority of action

**MXR** - Multiplexer

**a** - MXR identifier (P, 1 through 6)

**TYPE** - Type

**mnxyz** - Type identifier

**mn** - Multiplexer type

*mn*      *Type*

MX      DS3 multiplexer (MXR)

EX      Enhanced DS3 multiplexer (EMXR) circuit pack

Default is the MX type for backward compatibility.

**xyz** - Format type

x      - The DS3 framing format

*x*      *Format*

1      M13 (default)

2      C-bit parity

y      - Not assigned (the only valid value is 0)

z      - Not assigned (the only valid value is 0)

**MIU** - Multiplexer interface unit

**a** - MIU identifier (P, 1 through 6)

**cc** - Hexadecimal condition code

**cc**      **Explanation**

**10**      **Unit is not equipped**

**11**      **UC is out of service**

**12**      **UC is in service but failed**

**24**      **Unit type error**

**9B**      **The MXR is not grown**

**A8**      **The MMFG is Out Of Service**

**cc Explanation**

- A9 INCL not specified and at least one NPC In Service**
- AA Range entered without FRC keyword**
- AB FRC specified for protection, and service MMFG is In Service**
- AC No protection is available for the Service MMFG**
- AD The Protection MMFG is selected, and auto. switchback is unavailable**
- B7 The associated MXR is In-Service but pested**

## **RMV,UNIT,UC**

### **REMOVE UNIT CONTROLLER**

#### **Explanation Of Command**

This message requests removal of the specified unit controller from service.

#### **Command**

[I.33311]

RMV:FRM xy,SEQ ww:UNIT [q]q,UC!

#### **Completion Message**

[O.33311]

M hh:mm:ss xy,wz n RMV UNIT [q]q UC COND cc COMPL

#### **Denial Message**

[O.33311.01]

M hh:mm:ss xy,ww n[vv] RMV UNIT [q]q UC COND cc DNY

#### **Autonomous Message**

[O.33311]

\*\*hh:mm:ss xy,wz n RMV UNIT [q]q UC COND cc COMPL

[O.33311.01]

\*\*hh:mm:ss xy,ww n[vv] RMV UNIT [q]q UC COND cc DNY

### **Explanation Of Parameters**

---

**UC** - Unit controller

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**COND** - Condition

**cc** - Completion condition code

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>Explanation</b> |
|-----------|--------------------|
|-----------|--------------------|

|           |                                       |
|-----------|---------------------------------------|
| <b>02</b> | <b>Subject entity is not equipped</b> |
|-----------|---------------------------------------|

|           |                                         |
|-----------|-----------------------------------------|
| <b>04</b> | <b>Subject entity is out of service</b> |
|-----------|-----------------------------------------|

## **RPT,T,NPC,LOCN,AI,COUNT,THLEV**

### **REPORT NPC THRESHOLD CROSSING**

#### **Explanation Of Command**

This autonomous output message reports a facility performance monitoring parameter threshold crossing event for the specified DA or TA type NPC. For DA and TA type NPCs, this is a non-alarmed event. Threshold crossing alert messages can be generated for both 15-minute and daily parameter accumulation intervals.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

#### **Nonhierarchical**

[O.65061]

I hh:mm:ss xy,ww RPT T-<parameter> NPC [s]abc 2 LN MSG:  
LOCN locn AI aaaaa COUNT cccccccc THLEV llllllll COMPL

## Hierarchical

[O.65061]

**I** hh:mm:ss xy,ww **RPT** T-<parameter> **NPC** uvmnp 2 **LN** MSG:  
**LOCN** locn **AI** aaaaa **COUNT** cccccccc **THLEV** llllllll **COMPL**

## Explanation Of Parameters

**AI** - Accumulation Interval

**aaaaa** - The accumulation time period for the specified parameter

*aaaaa Explanation*

15MIN Parameter count from a 15-minute accumulator

DAILY Parameter count from a daily accumulator

**NPC** - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |



| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

### **T-parameter**

- Threshold crossing parameter

**T**

- Threshold

**parameter**

- The type of monitored parameter for which a threshold crossing is reported.

For DA or TA type NPC

| <i>parameter</i> | <i>Explanation</i>                    |
|------------------|---------------------------------------|
| CVP              | Path Coding Violations                |
| CVL              | Line Coding Violations                |
| ESP              | Path Errored Seconds                  |
| ESL              | Line Errored Seconds                  |
| SESP             | Path Severely Errored Seconds         |
| SESL             | Line Severely Errored Seconds         |
| SEFS             | Path Severely Errored Framing Seconds |
| CSSP             | Path Controlled Slip Seconds          |
| UASP             | Path Unavailable Seconds              |

**LOCN** - Location

**locn** - The location being performance monitored

*locn Explanation*

NEND Near-end

FEND Far-end

**COUNT** - Count

**CCCCCCCC**

- The count accumulated for the monitored parameter  
(000000001 through 134217728)

**THLEV** - Threshold Level

**11111111**

- The programmed threshold level of the monitored parameter  
(000000001 through 134217728)

Values of threshold levels within the ranges above may cause  
threshold crossing alert messages

---

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## **RST**

---

This section documents the **RST** command.



## **RST,CCB**

### **RESTORE CROSS-CONNECT BUFFER**

#### **Explanation Of Command**

This command applies only to the noncapacity expansion frame (NCEF).

It requests the restoration of the specified cross-connect buffer to service.

#### **Command**

[I.34202]

**RST:FRM xy,SEQ ww:CCB sf!**

#### **Completion Message**

[O.34202]

**M hh:mm:ss xy,ww n[vv] RST CCB sf COND cc COMPL**

#### **Denial Message**

[O.34202.01]

**M hh:mm:ss xy,ww n[vv] RST CCB sf COND cc DNY**

#### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**CCB** - Cross-connect buffer

**s** - Side number (0 or 1)

**f** - CCB number (1 through 6)

**COND** - Condition

**cc** - Completion condition code (hexadecimal)

To interpret values see cc.

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>Explanation</b> |
|-----------|--------------------|
|-----------|--------------------|

|           |                                       |
|-----------|---------------------------------------|
| <b>02</b> | <b>Subject entity is not equipped</b> |
|-----------|---------------------------------------|

|           |                                     |
|-----------|-------------------------------------|
| <b>03</b> | <b>Subject entity is in service</b> |
|-----------|-------------------------------------|

|           |                                     |
|-----------|-------------------------------------|
| <b>0A</b> | <b>DGN on subject entity failed</b> |
|-----------|-------------------------------------|

|           |                                      |
|-----------|--------------------------------------|
| <b>0B</b> | <b>BOOT on subject entity failed</b> |
|-----------|--------------------------------------|

|           |                                |
|-----------|--------------------------------|
| <b>16</b> | <b>SYNC TB is not equipped</b> |
|-----------|--------------------------------|

|           |                               |
|-----------|-------------------------------|
| <b>17</b> | <b>SYNC is out of service</b> |
|-----------|-------------------------------|

|           |                               |
|-----------|-------------------------------|
| <b>18</b> | <b>CCNI is out of service</b> |
|-----------|-------------------------------|

|           |                                 |
|-----------|---------------------------------|
| <b>1B</b> | <b>CCN side s is in service</b> |
|-----------|---------------------------------|

|           |                                     |
|-----------|-------------------------------------|
| <b>CF</b> | <b>SYNC is inservice but failed</b> |
|-----------|-------------------------------------|

|           |                                     |
|-----------|-------------------------------------|
| <b>D3</b> | <b>CCNI is inservice but failed</b> |
|-----------|-------------------------------------|

## **RST,CCI**

---

### **RESTORE CONTROL AND CLOCK INTERFACE**

#### **Explanation Of Command**

---

This command applies only to the capacity expansion frame (CEF).

It requests that the clock and control interface pack of side s be restored to service. The two bus terminator packs of side s are also restored along with the CCI pack.

#### **Command**

---

[I.34251]

**RST:FRM xy,SEQ ww:CCI s!**

#### **Completion Message**

---

[O.34251]

**M hh:mm:ss xy,ww n[vv] RST CCI s COND cc COMPL**

#### **Denial Message**

---

[O.34251.01]

**M hh:mm:ss xy,ww n[vv] RST CCI s COND cc DNY**

#### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**CCI** - Clock and control interface

**s** - Side number (0 or 1)

**COND** - Condition

**cc** - Completion condition code (hexadecimal)  
To interpret values see cc below.

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>Explanation</b> |
|-----------|--------------------|
|-----------|--------------------|

|           |                                      |
|-----------|--------------------------------------|
| <b>00</b> | <b>No conditions</b>                 |
| <b>03</b> | <b>Subject entity is in service</b>  |
| <b>0A</b> | <b>DGN on subject entity failed</b>  |
| <b>0B</b> | <b>BOOT on subject entity failed</b> |
| <b>16</b> | <b>SYNC TB is not equipped</b>       |
| <b>17</b> | <b>SYNC is out of service</b>        |
| <b>CF</b> | <b>SYNC is inservice but failed</b>  |

## **RST,CCNI**

### **RESTORE CROSS-CONNECT NETWORK INTERFACE**

#### **Explanation Of Command**

This command is applicable only to the noncapacity expansion frame (NCEF).

It allows restoral of a cross-connect network interface to service.

#### **Command**

[I.34201]

**RST:FRM xy,SEQ ww:CCNI s!**

#### **Completion Message**

[O.34201]

**M hh:mm:ss xy,ww n[vv] RST CCNI s COND cc COMPL**

#### **Denial Message**

[O.34201.01]

**M hh:mm:ss xy,ww n[vv] RST CCNI s COND cc DNY**

#### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**CCNI** - Cross-connect network interface.

**s** - Side No. (0 or 1).

**COND** - Condition

**cc** - Completion condition code  
To interpret values see cc.

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>Explanation</b> |
|-----------|--------------------|
|-----------|--------------------|

|           |                                      |
|-----------|--------------------------------------|
| <b>03</b> | <b>Subject entity is in service</b>  |
| <b>0A</b> | <b>DGN on subject entity failed</b>  |
| <b>0B</b> | <b>BOOT on subject entity failed</b> |
| <b>16</b> | <b>SYNC TB is not equipped</b>       |
| <b>17</b> | <b>SYNC is out of service</b>        |
| <b>1B</b> | <b>CCN side s is in service</b>      |
| <b>CF</b> | <b>SYNC is inservice but failed</b>  |

## **RST,ETSI**

### **RESTORE EXPANDED TIME SLOT INTERCHANGER**

#### **Explanation Of Command**

This command is applicable only to the capacity expansion frame (CEF).

It requests that an expanded time slot interchanger (ETSI) be restored to service.

#### **Command**

[I.34261]

**RST:FRM xy,SEQ ww:ETSI sqq!**

#### **Completion Message**

[O.34261]

**M hh:mm:ss xy,ww n[vv] RST ETSI sqq COND 00 COMPL**

#### **Denial Message**

[O.34261.01]

**M hh:mm:ss xy,ww n[vv] RST ETSI sqq COND cc DNY**

#### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**ETSI** - Expanded time slot interchanger

**s** - Side number (0 or 1)

**qq** - Unit number (01 through 16)

Note that the unit number qq must always be shown with two digits in both the input and output. The leading 0 is required.

**cc** - Hexadecimal condition code

**cc** *Explanation*

**02** Subject entity is not equipped

**03** Subject entity is in service

**0A** DGN on subject entity failed

**0B** BOOT on subject entity failed

**16** SYNC TB is not equipped

**17** SYNC is out of service

**CE** CCI is out of service

**CF** SYNC is inservice but failed

**D1** CCI is not present

**D4** CCI is inservice but failed



---

## **RST,ETISIS,ECCN,ALL**

---

### **RESTORE ALL ETISIS**

#### **Explanation Of Command**

---

This command is applicable only to the capacity expansion frame (CEF).

It requests that all equipped expanded time slot interchangers (ETISIs) in side s of the expanded cross-connect network (ECCN) be restored to service.

#### **Command**

---

[I.34271]

**RST:FRM xy,SEQ ww:ETISIS,ECCN s,ALL!**

#### **Completion Message**

---

[O.34271]

**M hh:mm:ss xy,ww n[vv] RST ETISIS ECCN s ALL 5 LN MSG:**

**TOTAL ETISIS kk**

**s01 r nn s02 r nn s03 r nn s04 r nn s05 r nn s06 r nn**

**s07 r nn s08 r nn s09 r nn s10 r nn s11 r nn s12 r nn**

**s13 r nn s14 r nn s15 r nn s16 r nn** \

**COND cc COMPL**

#### **Denial Message**

---

[O.34271.01]

**M hh:mm:ss xy,ww n[vv] RST ETISIS ECCN s ALL COND cc DNY**

### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

**ETSiS** - Expanded time slot interchangers

**ECCN** - Expanded cross-connect network

**s** - Side number (0 or 1)

**kk** - Total number of ETSiSs equipped (01 through 16)

**r** - Restore status

Indication of the completion or denial of the restoration for each individual ETSiS pack.

| <i>r</i> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|   |           |
|---|-----------|
| C | Completed |
|---|-----------|

|   |        |
|---|--------|
| D | Denied |
|---|--------|

|   |                    |
|---|--------------------|
| - | ETSiS not equipped |
|---|--------------------|

**nn** - Hexadecimal condition code for the particular ETSiS

To interpret values of nn see cc below.

**cc** - Hexadecimal completion condition code.

To interpret values of cc see cc below.

**cc** - Hexadecimal condition code

| <b>cc</b> | <i>Explanation</i> |
|-----------|--------------------|
|-----------|--------------------|

|           |               |
|-----------|---------------|
| <b>00</b> | No conditions |
|-----------|---------------|

|           |                                |
|-----------|--------------------------------|
| <b>02</b> | Subject entity is not equipped |
|-----------|--------------------------------|

|           |                              |
|-----------|------------------------------|
| <b>03</b> | Subject entity is in service |
|-----------|------------------------------|

|           |                              |
|-----------|------------------------------|
| <b>0A</b> | DGN on subject entity failed |
|-----------|------------------------------|

|           |                               |
|-----------|-------------------------------|
| <b>0B</b> | BOOT on subject entity failed |
|-----------|-------------------------------|

|           |                              |
|-----------|------------------------------|
| <b>0C</b> | DGN on subject entity denied |
|-----------|------------------------------|

|           |                         |
|-----------|-------------------------|
| <b>16</b> | SYNC TB is not equipped |
|-----------|-------------------------|

|           |                        |
|-----------|------------------------|
| <b>17</b> | SYNC is out of service |
|-----------|------------------------|

**cc**    *Explanation*

- 41**    Failed to boot subject CCN side
- CE**    CCI is out of service
- CF**    SYNC is inservice but failed
- D1**    CCI is not present
- D4**    CCI is inservice but failed

## **RST, LINK**

---

### **RESTORE ADMINISTRATIVE LINK**

#### **Explanation Of Command**

---

This message requests the restoration of the administrative **LINK** to service. The autonomous output message will be generated when the administrative link is successfully restored by the auto-restoration option.

#### **Command**

---

[I.34011]

**RST:FRM xy,SEQ ww:LINK j!**

#### **Completion Message**

---

[O.34011]

**M hh:mm:ss xy,ww n[vv] RST LINK j COND cc COMPL**

#### **Denial Message**

---

[O.34011.01]

**M hh:mm:ss xy,ww n[vv] RST LINK j COND cc DNY**

#### **Autonomous Message**

---

[O.34011]

**A hh:mm:ss xy,ww RST LINK j COND cc COMPL**

### **Explanation Of Parameters**

---

**LINK** - Link

**j** - Administrative link number (1 through 6)

**cc** - Hexadecimal condition code

**cc Explanation**

**00 No conditions**

**03 Subject entity is in service**

**0A DGN on subject entity failed**

## **RST,MC,MCOND,NOJRNL,FRC,CLR,ALL**

### **RESTORE MAIN CONTROLLER**

#### **Explanation Of Command**

The RST::MC command provides different functions when different keywords are entered. DACS II responses to each keyword entered are explained below:

1. **RST:FRM xy,SEQ ww:MC,MCOND!**

The MCOND keyword transfers the DACS II Main Controller (MC) from the normal in-service state to the Maintenance Condition (MCOND) state. MCOND is a state of the MC in which it is not fully OOS but is in a restricted mode to allow certain maintenance operations. Network traffic carried by the system will not be affected by MCOND.

2. **RST:FRM xy,SEQ ww:MC!**

This command restores the MC to the normal in-service state from either the OOS or the MCOND state by using the data base on the PMEM. Therefore, if the primary memory data base contains the state existing prior to entering the OOS or MCOND state, the system will return to the original state without affecting service, that is, no network traffic disruption. Normal in-service or original state imply that only states provisioned by the user are recorded in the data base and will be used for restoral; transient states will not be recorded or used for restoral. This command should be used to restore the system for normal operations.

Any test groups and ports established prior to entering the RST::MC command will be autonomously released by this command. Upon completion of the command a test group release message will be issued for the last test group released as a result of the RST::MC. No messages will be issued for any test ports released during command execution.

3. **RST:FRM xy,SEQ ww:MC,NOJRNL!**

The NOJRNL keyword causes the system to be restored without the data base journals on the PMEM. At the completion of this command the system returns to the state of the last data base backup from RAM to PMEM. The effect of the commands entered after the last data base backup is destroyed. Therefore, if cross-connect commands were executed after the last backup, the resulting cross-connections will be disconnected by this command. This command is useful for system restoration after the system fails to boot due to JOURNAL failure.

4. **RST:FRM xy,SEQ ww:MC,FRC!**

The FRC keyword forces the system to be restored when there is an empty data base in the PMEM. At the completion of the command the MC will be in IS state.

- For Installation and Product Evaluation Only. Can be used only if the AT&T security warning feature bit is set.

**RST:FRM xy,SEQ ww:MC,CLR!**

The CLR keyword erases Main Processor (MP) and all Unit data bases in the processor memory and on the PMEM before restoring the system. Thus, all transmission equipment is de-grown and all cross-connects are disconnected. This command should be used for installation only and should NOT be used for any other maintenance operations. Note that the Communications Interface (CI) data base is not erased by this command.

- For Installation and Product Evaluation Only. Can be used only if the AT&T security warning feature bit is set.

**RST:FRM xy,SEQ ww:MC,CLR,ALL!**

The only difference between using only the CLR keyword and using both the CLR and ALL keywords is that entering ALL will cause the Communications Interface (CI) data base to be erased before restoring the system. Therefore, all information associated with user logins (except the Frame Administrator DAX login) will be deleted from the data base and the provisioning data for the administrative links will return to the default values.

**WARNING:**

The use of the NOJRNL or FRC keywords can also affect existing services. DACS II treats the following commands as restricted commands (See Message 36103 for RMON privilege):

**RST:FRM xy,SEQ ww:MC,NOJRNL!**  
**RST:FRM xy,SEQ ww:MC,FRC!**

**RST:FRM xy,SEQ ww:MC,CLR!**  
**RST:FRM xy,SEQ ww:MC,CLR,ALL!**

That is, these commands are restricted to only the users who have the RMON privilege. In addition, to prevent users from accidentally destroying services, when any of these commands is entered, DACS II will respond with:

**ARE YOU SURE?(YES/NO)**

When the RST::MC,FRC command is entered, DACS II will respond with:

WARNING:

EXECUTION OF THIS COMMAND WILL RESULT IN LOSS OF SERVICE  
AND WILL REQUIRE REPROVISIONING OF THE FRAME.

DO YOU STILL WANT THIS COMMAND EXECUTED?(YES/NO)

Only if the answer is **YES**, will the command be executed. If **NO**, DACS II will display the **COMMAND ABORTED** response.

## **Command**

---

For Normal Operations:  
[I.34001]

**RST:FRM xy,SEQ ww:MC[, {MCOND|NOJRNL|FRC}]!**

For Installation and Product Evaluation Only:  
(Can be used only if the AT&T security warning feature bit is set)

[I.34001]

**RST:FRM xy,SEQ ww:MC,CLR[, ALL]!**



### **Completion Message**

---

For Normal Operations:  
[O.34001]

**M hh:mm:ss xy,ww n[vv] RST MC[ {MCOND|NOJRNL|FRC}] COND cc COMPL**

For Installation and Product Evaluation Only:  
(Will be available only if the AT&T security warning feature bit is set)  
[O.34001]

**M hh:mm:ss xy,ww n[vv] RST MC CLR[ ALL] COND cc COMPL**

### **Denial Message**

---

For Normal Operations:  
[O.34001.01]

**M hh:mm:ss xy,ww n[vv] RST MC[ {MCOND|NOJRNL|FRC}] COND cc DNY**

For Installation and Product Evaluation Only:  
(Will be available only if the AT&T security warning feature bit is set)  
[O.34001.01]

**M hh:mm:ss xy,ww n[vv] RST MC CLR[ ALL] COND cc DNY**

### **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

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**MC** - Main controller

**MCOND** - Maintenance condition

**NOJRNL** - No Journal

Boot frame without journals.

**FRC** - Force

Force the frame to boot when there is an empty  
data base in the PMEM.

Note that the FRC option is a restricted command.

**cc** - Hexadecimal condition code

### **cc Explanation**

|    |                                                                     |
|----|---------------------------------------------------------------------|
| 03 | Subject entity is in service                                        |
| 04 | Subject entity is out of service                                    |
| 0A | DGN on subject entity failed                                        |
| 0B | BOOT on subject entity failed                                       |
| 46 | Failed to boot CONF file                                            |
| 47 | Failed to boot DB                                                   |
| 48 | Failed to boot journal--recurrence indicates<br>database corruption |
| 49 | Failed to boot unit                                                 |
| 18 | DSPI not equipped, not in service, or failed                        |
| 20 | Software Identification Block is not readable                       |
| 21 | Software Identification Block failed<br>comparison                  |
| 22 | Release number mismatch                                             |
| 23 | Point number mismatch                                               |
| 24 | PDI Version number mismatch                                         |
| 52 | Database is empty                                                   |
| 53 | Database is not empty                                               |
| 91 | Can't mount or unmount SMEM                                         |
| 92 | Can't mount or unmount PMEM                                         |
| 93 | SMEM is not present                                                 |
| F9 | Cannot clear journals for OOS unit                                  |
| EF | SSC circuit pack is still equipped; pull-<br>out/remove SSC         |

**cc Explanation**

- F1 PMEM and SMEM synchronization fail**
- F2 Not a DACS II compatible Flash Card**
- F3 Flash Card is empty**
- F4 PMEM and SMEM are different**
- F5 Flash Card is not present**
- F6 Flash Card is bad**

## **RST,NPC,SIDE**

### **RESTORE NPCs**

#### **Explanation Of Command**

This command restores Facility Terminating Unit (FTU), DS3 Unit (DS3U), or Digital Signal Processing Unit (DSPU) Network Processing Circuits (NPC) to service.

A range of FTU and DS3U NPCs may be specified, but DSPU NPCs must be individually restored.

One output message, either completion or denial, is printed for each NPC addressed in the restore command.

DSPU NPCs are duplicated and are associated with the DACS II Cross-Connect Network (CCN) sides. DSPU NPCs are addressed with a side number, and are restored one side at a time. A single DSPU NPC restore command restores only the one addressed side of the duplicated DSPU NPC.

**Note:** Each DMB circuit pack supports two NPCs. Restoring either side of a DMB NPC restores both NPCs supported by the circuit pack.

**Note:** Each Subrate circuit pack supports one NPC. Restoring either side of a Subrate NPC restores the NPC supported by the circuit pack.

**Note:** To restore RT(DL) SLC carrier terminated digroups with the range command, digroup A (DGA) must have been restored previously or must be one of the NPCs specified in the command.

Execution of this command may be stopped by entering the **ABT** command.

### **Command**

---

#### **Nonhierarchical**

---

[I.34351]

RST:[FRM xy,SEQ ww]:NPC [s]abc[-[t]def][,SIDE s]!

#### **Hierarchical**

---

[I.34351]

RST:[FRM xy,SEQ ww]:NPC uvmnp[-uvkqr][,SIDE s]!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.34351]

M hh:mm:ss xy,ww n[vv] RST NPC [s]ghi[ SIDE s] TYPE mnxyz COND 00 \  
COMPL

#### **Hierarchical**

---

[O.34351]

M hh:mm:ss xy,ww n[vv] RST NPC uvghi[ SIDE s] TYPE mnxyz COND 00 \  
COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.34351.01]

M hh:mm:ss xy,ww n[vv] RST NPC [s]jkl[-[t]mno][ SIDE s] TYPE mnxyz \  
COND cc DNY

## Hierarchical

[O.34351.01]

M hh:mm:ss xy,ww n[vv] RST NPC uvjkl[-uvmno][ SIDE s] TYPE mnxyz \  
COND cc DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number (beginning of the range).

**[t]def** - The 3- or 4-digit nonhierarchical NPC number (end of the range).

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

**Note:** Only ODD NPC numbers are valid in the tables listed below. The even numbered NPC is not available for any other NPC type.

If NPC numbers are expressed in three digits, the valid values are:

SP type NPC numbers listed by unit number, Unit Type FT (FTU)

|                              |                              |                              |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
| <b>NPC</b><br><b>001-031</b> | <b>NPC</b><br><b>161-191</b> | <b>NPC</b><br><b>321-351</b> | <b>NPC</b><br><b>481-511</b> | <b>NPC</b><br><b>641-671</b> | <b>NPC</b><br><b>801-831</b> |
| <b>041-071</b>               | <b>201-231</b>               | <b>361-391</b>               | <b>521-551</b>               | <b>681-711</b>               | <b>841-871</b>               |
| <b>081-111</b>               | <b>241-271</b>               | <b>401-431</b>               | <b>561-591</b>               | <b>721-751</b>               | <b>881-911</b>               |
| <b>121-151</b>               | <b>281-311</b>               | <b>441-471</b>               | <b>601-631</b>               | <b>761-791</b>               | <b>921-951</b>               |

If NPC numbers are expressed in four digits, the valid values are:

SP type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0031</b> | <b>NPC</b><br><b>0161-0191</b> | <b>NPC</b><br><b>0321-0351</b> | <b>NPC</b><br><b>0481-0511</b> |
| <b>0041-0071</b>               | <b>0201-0231</b>               | <b>0361-0391</b>               | <b>0521-0551</b>               |
| <b>0081-0111</b>               | <b>0241-0271</b>               | <b>0401-0431</b>               | <b>0561-0591</b>               |
| <b>0121-0151</b>               | <b>0281-0311</b>               | <b>0441-0471</b>               | <b>0601-0631</b>               |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0671</b> | <b>NPC</b><br><b>0801-0831</b> | <b>NPC</b><br><b>0961-0991</b> | <b>NPC</b><br><b>1121-1151</b> |
| <b>0681-0711</b>               | <b>0841-0871</b>               | <b>1001-1031</b>               | <b>1161-1191</b>               |
| <b>0721-0751</b>               | <b>0881-0911</b>               | <b>1041-1071</b>               | <b>1201-1231</b>               |
| <b>0761-0791</b>               | <b>0921-0951</b>               | <b>1081-1111</b>               | <b>1241-1271</b>               |

| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1311</b> | <b>1441-1471</b> | <b>1601-1631</b> | <b>1761-1791</b> |
| <b>1321-1351</b> | <b>1481-1511</b> | <b>1641-1671</b> | <b>1801-1831</b> |
| <b>1361-1391</b> | <b>1521-1551</b> | <b>1681-1711</b> | <b>1841-1871</b> |
| <b>1401-1431</b> | <b>1561-1591</b> | <b>1721-1751</b> | <b>1881-1911</b> |
| <br>             |                  |                  |                  |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-1951</b> | <b>2081-2111</b> | <b>2241-2271</b> | <b>2401-2431</b> |
| <b>1961-1991</b> | <b>2121-2151</b> | <b>2281-2311</b> | <b>2441-2471</b> |
| <b>2001-2031</b> | <b>2161-2191</b> | <b>2321-2351</b> | <b>2481-2511</b> |
| <b>2041-2071</b> | <b>2201-2231</b> | <b>2361-2391</b> | <b>2521-2551</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| <br>             |                  |                  |                  |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |



|                  |                  |                  |                  |
|------------------|------------------|------------------|------------------|
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

|            |            |            |            |            |            |
|------------|------------|------------|------------|------------|------------|
| Unit<br>1  | Unit<br>2  | Unit<br>3  | Unit<br>4  | Unit<br>5  | Unit<br>6  |
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| <b>001</b> | <b>161</b> | <b>321</b> | <b>481</b> | <b>641</b> | <b>801</b> |
| <b>021</b> | <b>181</b> | <b>341</b> | <b>501</b> | <b>661</b> | <b>821</b> |
| <b>041</b> | <b>201</b> | <b>361</b> | <b>521</b> | <b>681</b> | <b>841</b> |
| <b>061</b> | <b>221</b> | <b>381</b> | <b>541</b> | <b>701</b> | <b>861</b> |
| <b>081</b> | <b>241</b> | <b>401</b> | <b>561</b> | <b>721</b> | <b>881</b> |
| <b>101</b> | <b>261</b> | <b>421</b> | <b>581</b> | <b>741</b> | <b>901</b> |
| <b>121</b> | <b>281</b> | <b>441</b> | <b>601</b> | <b>761</b> | <b>921</b> |
| <b>141</b> | <b>301</b> | <b>461</b> | <b>621</b> | <b>781</b> | <b>941</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| Unit<br>1   | Unit<br>2   | Unit<br>3   | Unit<br>4   |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0001</b> | <b>0161</b> | <b>0321</b> | <b>0481</b> |
| <b>0021</b> | <b>0181</b> | <b>0341</b> | <b>0501</b> |
| <b>0041</b> | <b>0201</b> | <b>0361</b> | <b>0521</b> |
| <b>0061</b> | <b>0221</b> | <b>0381</b> | <b>0541</b> |
| <b>0081</b> | <b>0241</b> | <b>0401</b> | <b>0561</b> |
| <b>0101</b> | <b>0261</b> | <b>0421</b> | <b>0581</b> |
| <b>0121</b> | <b>0281</b> | <b>0441</b> | <b>0601</b> |
| <b>0141</b> | <b>0301</b> | <b>0461</b> | <b>0621</b> |

| Unit<br>5   | Unit<br>6   | Unit<br>7   | Unit<br>8   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0641</b> | <b>0801</b> | <b>0961</b> | <b>1121</b> |
| <b>0661</b> | <b>0821</b> | <b>0981</b> | <b>1141</b> |
| <b>0681</b> | <b>0841</b> | <b>1001</b> | <b>1161</b> |
| <b>0701</b> | <b>0861</b> | <b>1021</b> | <b>1181</b> |
| <b>0721</b> | <b>0881</b> | <b>1041</b> | <b>1201</b> |
| <b>0741</b> | <b>0901</b> | <b>1061</b> | <b>1221</b> |
| <b>0761</b> | <b>0921</b> | <b>1081</b> | <b>1241</b> |
| <b>0781</b> | <b>0941</b> | <b>1101</b> | <b>1261</b> |
| Unit<br>9   | Unit<br>10  | Unit<br>11  | Unit<br>12  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1281</b> | <b>1441</b> | <b>1601</b> | <b>1761</b> |
| <b>1301</b> | <b>1461</b> | <b>1621</b> | <b>1781</b> |
| <b>1321</b> | <b>1481</b> | <b>1641</b> | <b>1801</b> |
| <b>1341</b> | <b>1501</b> | <b>1661</b> | <b>1821</b> |
| <b>1361</b> | <b>1521</b> | <b>1681</b> | <b>1841</b> |
| <b>1381</b> | <b>1541</b> | <b>1701</b> | <b>1861</b> |
| <b>1401</b> | <b>1561</b> | <b>1721</b> | <b>1881</b> |
| <b>1421</b> | <b>1581</b> | <b>1741</b> | <b>1901</b> |
| Unit<br>13  | Unit<br>14  | Unit<br>15  | Unit<br>16  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1921</b> | <b>2081</b> | <b>2241</b> | <b>2401</b> |
| <b>1941</b> | <b>2101</b> | <b>2261</b> | <b>2421</b> |
| <b>1961</b> | <b>2121</b> | <b>2281</b> | <b>2441</b> |
| <b>1981</b> | <b>2141</b> | <b>2301</b> | <b>2461</b> |
| <b>2001</b> | <b>2161</b> | <b>2321</b> | <b>2481</b> |
| <b>2021</b> | <b>2181</b> | <b>2341</b> | <b>2501</b> |
| <b>2041</b> | <b>2201</b> | <b>2361</b> | <b>2521</b> |
| <b>2061</b> | <b>2221</b> | <b>2381</b> | <b>2541</b> |

**uvmp** - Hierarchical NPC number (beginning of the range).

**uvkqr** - Hierarchical NPC number (end of the range).

**uv** - Unit number

**m** - Module number

**np, qr** - NPC number within the module

DE, DS, and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

**Note:** Only ODD NPC numbers are valid in the tables listed below. The even numbered NPC is not available for any other NPC type.

SP type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-31</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

MB, SR, and MJ type numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

| Unit         | Module     | NPC       |
|--------------|------------|-----------|
| <b>01-16</b> | <b>1-8</b> | <b>01</b> |

**SIDE** - Side

**s** - Side of duplicated DSPU circuit to be removed (0 or 1)

**[s]ghi** - The 3- or 4-digit nonhierarchical number of a successfully restored NPC.

(**[s]abc** through **[t]def**)

**[s]jkl** - The 3- or 4-digit nonhierarchical number of an NPC whose restoral is denied.

If used in a range, it denotes the first NPC of the range.

(**[s]abc** through **[t]def**)

**[t]mno** - The 3- or 4-digit nonhierarchical number of an NPC whose restoral is denied.

It denotes the last NPC of a range. (**[s]abc** through **[t]def**)

**uvghi** - Hierarchical number of a successfully restored NPC.

(**uvmnp** through **uvkqr**)

**uvjkl** - Hierarchical number of an NPC whose restoral is denied.

If used in a range, it denotes the first NPC of the range.

(**uvmnp** through **uvkqr**)

**uvmno** - Hierarchical number of an NPC whose restoral is denied.

It denotes the last NPC of a range. (**uvmnp** through **uvkqr**)

**uv** - Unit number

**m, g, k, j**

- Module number

**np, qr, hi, kl, no**

- NPC number within the module

**TYPE** - Type of NPC

**mnxyz** - NPC-type identifier

mn Explanation

DA Dual digroup ANSI NPC

DE Dual digroup NPC

DS SLC® carrier NPC

SP Digital Signal Processing Circuit Pack

TA DS3U ANSI NPC

TE DS3U Noninterface unit NPC

MB Digital multipoint bridge NPC

MJ Multipoint junction unit NPC

SR Subrate multiplexer unit NPC

## DE-type xyz fields

**x** - Multiframe format for the digroup**x**      *Explanation***0**      Not assigned**1**      D4**2**      ESF - Voice**3**      ESF - Data**4**      DDST (T1DM - R bit connection via channel 24)**5-7**    Not assigned**8**      Ericsson Cellular format**9**      No framing format, transparent (TRSP), clear-DS1**y** - Line and signaling format**y**      *Explanation***0**      ZCS - Zero code suppression**1\***    NZCS - No zero code suppression**2\***    B8ZS - Bipolar with 8 zero substitution**3†**    ZBTSI - Zero-bit time-slot interchanger**4**      ZCS/DMI - Zero code suppression/DMI signaling**5**      NZCS/DMI - No zero code suppression/DMI signaling**6**      B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling**7-9**    Not assigned

\* Only options 1 and 2 are applicable to DE-type clear-DS1 NPC.

† Only valid with ESF (x = 2 or 3)

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).**z** - Channel numbering format**z**      *Explanation***0**      D4 channel bank channel numbering**1**      D2 channel bank channel numbering**2**      D1D channel bank channel numbering**3-8**    Not assigned**9**      No channel numbering format, clear-DS1

DS-type xyz fields

**x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>               |
|------------|----------------------------------|
| <b>0</b>   | Not assigned                     |
| <b>1</b>   | D4                               |
| <b>2</b>   | ESF - Voice                      |
| <b>3</b>   | Not assigned                     |
| <b>4</b>   | Not assigned                     |
| <b>5</b>   | Not assigned                     |
| <b>6</b>   | SLC® 96 carrier Fs               |
| <b>7</b>   | SLC 5 carrier ESF with data link |
| <b>8-9</b> | Not assigned                     |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                      |
|------------|-----------------------------------------|
| <b>0</b>   | Zero code suppression (ZCS)             |
| <b>1</b>   | No zero code suppression (NZCS)         |
| <b>2</b>   | Bipolar with 8 zero substitution (B8ZS) |
| <b>3-9</b> | Not assigned                            |

**z** - Counting sequence format

| <b>z</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | SLC 96 carrier Mode III D4 counting sequence  |
| <b>1</b>   | SLC 96 carrier Mode III D1D counting sequence |
| <b>2</b>   | SLC 96 carrier Mode I D1D counting sequence   |
| <b>3</b>   | SLC Series 5 carrier D4 counting sequence     |
| <b>4-9</b> | Not assigned                                  |

## DA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                        |
|------------|-----------------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                               |
| <b>1*</b>  | NZCS - No zero code suppression                           |
| <b>2*</b>  | B8ZS - Bipolar with 8 zero substitution                   |
| <b>3</b>   | Not assigned                                              |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling             |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling         |
| <b>6</b>   | B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling |
| <b>7-9</b> | Not assigned                                              |

\* Only options 1 and 2 are applicable to DA-type clear-DS1 NPC.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering                |
| <b>1</b>   | D2 channel bank channel numbering                |
| <b>2</b>   | D1D channel bank channel numbering               |
| <b>3-8</b> | Not assigned                                     |
| <b>9</b>   | Unchannelized 193-bit Clear DS1 Cross-connection |

DA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a DA NPC with both a valid framing format (D4, ESF, T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the DA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II FTU, the NPC must be provisioned as NPC type **DE9y9**.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the DA NPC type. If ZBTSI is desired on an NPC in a DACS II FTU, the NPC must be provisioned as a DE NPC type with its **y** option selecting ZBTSI (**DEx3z**).

#### SP-type xyz fields

- x** - Fixed at 1
- y** - Fixed at 0
- z** - Fixed at 0

#### TE-type xyz fields

- x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | Not assigned                                     |
| <b>1</b>   | D4                                               |
| <b>2</b>   | ESF - Voice                                      |
| <b>3</b>   | ESF - Data                                       |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24)    |
| <b>5-7</b> | Not assigned                                     |
| <b>8</b>   | Ericsson Cellular format                         |
| <b>9</b>   | No framing format, transparent (TRSP), clear-DS1 |



**y** - Line and signaling format**y**      *Explanation*

- 0**      ZCS - Zero code suppression
- 1\***     NZCS - No zero code suppression
- 2**      Not assigned
- 3**      Not assigned
- 4**      ZCS/DMI - Zero code suppression/DMI signaling
- 5**      NZCS/DMI - No zero code suppression/DMI signaling
- 6-9**   Not assigned

\* Only option 1 is applicable to TE-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format**z**      *Explanation*

- 0**      D4 channel bank channel numbering
- 1**      D2 channel bank channel numbering
- 2**      D1D channel bank channel numbering
- 3-8**   Not assigned
- 9**      No channel numbering format, clear-DS1

## TA-type xyz fields

**x** - Multiframe format for the digroup**x**      *Explanation*

- 0**      Not assigned
- 1**      D4
- 2**      ESF - Voice
- 3**      ESF - Data
- 4**      DDST (T1DM - R bit connection via channel 24)
- 5-7**   Not assigned
- 8**      Ericsson Cellular format
- 9**      Not assigned

**y** - Line and signaling format

**y**      *Explanation*

- 0**      ZCS - Zero code suppression
- 1\***     NZCS - No zero code suppression
- 2**      Not assigned
- 3**      Not assigned
- 4**      ZCS/DMI - Zero code suppression/DMI signaling
- 5**      NZCS/DMI - No zero code suppression/DMI signaling
- 6-9**   Not assigned

\* Only option 1 is applicable to TA-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

**z** - Channel numbering format

**z**      *Explanation*

- 0**      D4 channel bank channel numbering
- 1**      D2 channel bank channel numbering
- 2**      D1D channel bank channel numbering
- 3-8**   Not assigned
- 9**      Unchannelized 193-bit Clear DS1 Cross-connection

TA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a TA NPC with both a valid framing format (D4,ESF,T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the TA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as NPC type TE919.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the TA NPC type. If ZBTSI is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as a TE NPC type with its **y** option selecting ZBTSI (**TEx3z**).

MB-type xyz fields

- x**      - Fixed at 1
- y**      - Fixed at 0
- z**      - Fixed at 0

SR- and MJ-type xyz fields

**x** - Fixed at 1

**y** - Fixed at 0

**z** - Fixed at 0

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                                            |
|-----------|------------------------------------------------------------|
| <b>02</b> | Subject entity is not equipped                             |
| <b>03</b> | Subject entity is in service                               |
| <b>0A</b> | DGN on subject entity failed                               |
| <b>0B</b> | BOOT on subject entity failed                              |
| <b>10</b> | Unit is not equipped                                       |
| <b>11</b> | UC is out of service                                       |
| <b>12</b> | UC is in service but failed                                |
| <b>13</b> | FTMI is not equipped                                       |
| <b>14</b> | FTMI is out of service                                     |
| <b>16</b> | SYNC TB is not equipped                                    |
| <b>17</b> | SYNC is out of service                                     |
| <b>18</b> | CCNI is out of service                                     |
| <b>1F</b> | FTMI is in service but failed                              |
| <b>36</b> | DSPI not equipped                                          |
| <b>37</b> | DSPI out-of-service                                        |
| <b>3E</b> | DSPI failed                                                |
| <b>40</b> | FC out of service                                          |
| <b>E0</b> | Hardware database mismatch                                 |
| <b>0D</b> | Unpestering error registers for subj. entity failed        |
| <b>67</b> | DGA is not added                                           |
| <b>7F</b> | NPC is not added                                           |
| <b>84</b> | Mate NPC is not equipped                                   |
| <b>8D</b> | RT/DL has unrestored DGA                                   |
| <b>F2</b> | Invalid NPC number specified                               |
| <b>FD</b> | NPC range crosses unit boundary                            |
| <b>A0</b> | The selected MXR associated with the NPC is Out-Of-Service |
| <b>A2</b> | The selected MIU associated with the NPC is Out-Of-Service |
| <b>B7</b> | The associated MXR is In-Service but pestered              |
| <b>69</b> | Use of this NPC is RESERVED for SLC 96 MD 1                |
| <b>CE</b> | CCI is out of service                                      |
| <b>CF</b> | SYNC is inservice but failed                               |
| <b>D1</b> | CCI is not present                                         |
| <b>D2</b> | ETSI is not present                                        |
| <b>D3</b> | CCNI is inservice but failed                               |
| <b>D4</b> | CCI is inservice but failed                                |
| <b>D5</b> | CCB is not equipped                                        |

**cc**    *Explanation*

- D6**    CCB is out of service
- D7**    CCB is inservice but failed
- D8**    ETSI is not equipped
- D9**    ETSI is out of service
- DA**    ETSI is inservice but failed
- DB**    FC is inservice but failed

## **RST,PMEM,SMEM,CLR,FRC,BKGRND**

### **RESTORE PMEM AND/OR SMEM**

#### **Explanation Of Command**

This message restores the primary memory card (**PMEM**) or secondary memory card (**SMEM**) to service. The **PMEM** card may be restored manually when the main controller (MC) is in maintenance condition (MCOND). The **SMEM** card may be restored manually when the MC is in-service (IS) or in MCOND.

The options **CLR**, **FRC**, and **BKGRND** can only be used with **SMEM**. In addition, the option **CLR** can only be used when the main controller is in MCOND. The options **FRC** and **BKGRND** can only be used when the main controller is IS. The options do the following:

1. The **CLR** option is used when the frame administrator wants to create a blank card. The executables and the database will be erased from the card. The **CLR** option cannot be used together with the **FRC** or **BKGRND** option.
2. The **FRC** option is used when an **SMEM** card is to be synchronized but one or more items on the **SMEM** card are incompatible with the same item on the **PMEM** card. The purpose of the **FRC** option is to allow the frame administrator to force synchronization, even though an incompatibility has been detected.
3. The **FRC** option may be use together with **BKGRND** option. It is incompatible with the **CLR** option.
4. The **BKGRND** option is used when the frame administrator wants to allow the execution of a certain set of commands to proceed while the synchronization of the **SMEM** card is proceeding in the background. The **BKGRND** keyword is incompatible with the **CLR** keyword, but it may be used together with the **FRC** keyword.

#### **Command**

[I.34211]

**RST:FRM xy,SEQ ww:{PMEM|SMEM[{,CLR|[,FRC][,BKGRND]}]}!**

### **Completion Message**

---

[O.34211]

**M hh:mm:ss xy,ww n[vv] RST {PMEM|SMEM[ CLR][ FRC][ BKGRND]} COMPL**

### **Denial Message**

---

[O.34211.01]

**M hh:mm:ss xy,ww n[vv] RST {PMEM|SMEM[ CLR][ FRC][ BKGRND]} COND cc DNY**

### **Autonomous Message**

---

Normal completion message when command is issued during Boot procedure

[O.34211]

**I hh:mm:ss xy,ww n[vv] RST SMEM BKGRND COMPL**

Error message when command issued during Boot procedure terminates abnormally

[O.34211.01]

**A hh:mm:ss xy,ww n[vv] RST SMEM BKGRND COND cc DNY**

### **Explanation Of Parameters**

---

**PMEM** - Primary memory card.

**CLR** - Clear

The CLR option will cause all volumes on the card inserted in the SMEM slot to be initialized. It is not allowed for the PMEM option.

If the **CLR** keyword is entered, DACS II will respond:

**ARE YOU SURE?(YES/NO)**

If **YES**, the command request will be submitted to DACS II. After completion, all of the file volumes on the SMEM card will be initialized and all information stored previously will be cleared.

If **NO**, DACS II will respond as indicated under the Completion or Denial Message.

**SMEM** - Secondary memory card.

If the MC is in MCOND, the SMEM card will be restored without any transfer of databases or executables to the card. It will be restored if it passes hardware diagnostics and is recognized as a DACS II compatible memory card.

If the MC is IS, restoring an SMEM card will result in the following actions:

1. The card will go through hardware diagnostics and a check to ensure it is a DACS II compatible card.
2. The SMEM card will be made bit-for-bit identical to the PMEM card.
3. The system software will ensure that subsequent writes to the PMEM card will also be written to the SMEM card, so that the PMEM and SMEM cards will always be synchronous.

**FRC** - Force.

If the MC is IS and the SMEM has passed hardware diagnostics and is a compatible card, then the following conditions are checked on the SMEM:

- a) blank or uninitialized card
- b) a frame ID mismatch between the PMEM and SMEM cards
- c) a unique ID mismatch between the PMEM and SMEM cards
- d) a release version mismatch between the PMEM and SMEM cards
- e) the database on the SMEM is corrupted, missing or unrecognizable

If any of the above conditions exist, the frame must generate a warning message listing the condition and deny the command as follows:

**Warning: The SMEM Card being restored has the following problems!**

**<message describing the problem>**

**IF YOU STILL WISH TO PROCEED, USE FRC OPTION**

If the user proceeds with the FRC option, then the following message will appear:

**ARE YOU SURE? (YES/NO)**

A response of YES will cause the command to be executed. Any other response, or a 60-second time interval, will cause the command to be aborted.

**BKGRND** - Background

The BKGRND command is used when the main controller is In Service and is only valid when used with SMEM.

The following is a list of commands that are available while the backup procedure is running in the background.

[I.11001] TCON, FROM, TO, RDC, CUS, INCL  
[I.11011] TCON, FROM, TO, RDC, CUS, INCL (clear DS1/clear 2M bps)  
[I.11021] TCON, FROM, TO, MPM, NAM, NTR, RDC, CUS, INCL  
[I.15001] TDIS, FROM, TO, INCL, OOS, DCC  
[I.15002] TDIS, FROM, TO, INCL, OOS, DCC (multi-point)  
[I.15011] TDIS, FROM, TO, OOS, INCL (clear DS1/clear 2M bps)  
[I.19001] ED, MACRO, MAP  
[I.19101] SECH, TO, DS0A, DS0B, SEC, PCH  
[I.19111] SECH, TO, RATE, DP, PCH  
[I.19151] SDCH, TO, PCH, DCC  
[I.19201] SCON, RATE, TPT, FROM, TO  
[I.19211] SCON, DS0A, RATE, TPT, FROM, TO, DS0B  
[I.19221] SCON, RATE, MPTM, MJU, MA  
[I.19401] SDIS, RATE, TPT, FROM, TO  
[I.19411] SDIS, RATE, TPT, FROM, TO  
[I.19421] SDIS, RATE, MPTM, MJU (MJU branch)  
[I.19431] SDIS, RATE, MPTM, MJU, ALL (MJU master)  
[I.19501] CHG, SECH, OLD, NEW, PCH, DCC  
[I.19581] CHG, SCON, OLD, NEW (change MJU branch)  
[I.19591] CHG, SCON, OLD, NEW, MPTM (change MJU master)  
[I.39001] LOGIN, USER, PASSWD, DACS, II  
[I.39101] LOGOFF, USER, LINK  
[I.51011] UTL, TOD, CFA, MONDAT, FAC, BMTR, PRIM, BKGRND  
[I.51041] UTL, QRY, WHO  
[I.51131] UTL, QRY, SQN  
[I.52011] UTL, QRY, CMAP  
[I.52031] UTL, QRY, DMAP  
[I.52041] UTL, QRY, TO  
[I.52061] UTL, QRY, TO (clear DS1/clear 2M bps)  
[I.52501] UTL, QRY, SECH, TO  
[I.52511] UTL, QRY, SCON, CH, TO  
[I.52521] UTL, QRY, SCON, TO  
[I.52531] UTL, QRY, SRHDW, TO  
[I.55711] ABT  
[I.56311] UTL, QRY, STATE, NPC (except DA, TA, PA types)  
[I.56314] UTL, QRY, STATE, NPC (DA, TA, PA types only)  
[I.56501] UTL, QRY, SROOF, TO, ALL  
[I.81001] AUD, QRY, CFA, CGA, LFVR, FFER

Additionally, the following test access commands are available for use during a background backup procedure.



[I.19601] STST, MON, TO, TP  
 [I.19621] STST, MON, TO, MJU, TP  
 [I.19631] STST, SPL, TO, TP  
 [I.19651] STST, SPL, TO, MJU, TP  
 [I.19671] STST, TPR, TP  
 [I.19681] STST, TPR, ALL, LINKS  
 [I.20001] CTST, FAD, FROM, TO, AIS, INCL  
 [I.20031] CTST, HUB, FAD, TO, INCL  
 [I.20101] CTST, FAD, AIS, INCL  
 [I.20111] CTST, FAD, EMODE, FMODE, INCL  
 [I.20201] CTST, TNR, FAD, OOS, RDC, CUS, UMPD, EMODE  
 [I.20202] CTST, TNR, ALL, OOS  
 [I.20301] CTST, LPBKT, FAD, INCL  
 [I.21001] TTST, MON, TO, TP  
 [I.21021] TTST, MON, TO, TG  
 [I.21031] TTST, MON, TG  
 [I.23001] TTST, SPL, TP  
 [I.23021] TTST, SPL, TG  
 [I.24001] TTST, HUB, TO, TP  
 [I.24021] TTST, HUB, TO, TG  
 [I.26101] TTST, RT, DGA, DGB, DGC, DGD, DGP  
 [I.27001] TTST, TPR, TP, OOS  
 [I.27002] TTST, TPR, ALL, OOS  
 [I.27021] TTST, TGR, TG, OOS  
 [I.29001] TTST, LPD, TP  
 [I.29021] TTST, LPD, TG  
 [I.53061] UTL, QRY, TPS  
 [I.53081] UTL, QRY, TGS  
 [I.53091] UTL, QRY, NPCTG

**cc** - Hexadecimal condition code

**cc Explanation**

**03** Subject entity is in service  
**06** Device failed to format  
**07** Device failed to initialize  
**0B** BOOT on subject entity failed  
**93** SMEM is not present  
**FB** PMEM verification failed  
**11** PMEM type no longer supported

**cc    Explanation**

- F1    PMEM and SMEM synchronization fail**
- F2    Not a DACS II compatible Flash Card**
- F3    Flash Card is empty**
- F4    PMEM and SMEM are different**
- F5    Flash Card is not present**
- F6    Flash Card is bad**

## **RST,SYNC**

---

### **RESTORE SYNCHRONIZER**

#### **Explanation Of Command**

---

This command restores the specified synchronizer to service. This includes all constituent circuit packs; i.e., the timing extractor circuit, the phase-locked loop, the clock generator circuit, and the service and reply circuit.

#### **Command**

---

[I.34101]

**RST:FRM xy,SEQ ww:SYNC a!**

#### **Completion Message**

---

[O.34101]

**M hh:mm:ss xy,ww n[vv] RST SYNC a COND cc COMPL**

#### **Denial Message**

---

[O.34101.01]

**M hh:mm:ss xy,ww n[vv] RST SYNC a COND cc DNY**

#### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**SYNC** - Synchronizer

**a** - Synchronizer side number (0 or 1)

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>Explanation</b> |
|-----------|--------------------|
|-----------|--------------------|

|           |                                          |
|-----------|------------------------------------------|
| <b>00</b> | <b>No conditions</b>                     |
| <b>02</b> | <b>Subject entity is not equipped</b>    |
| <b>03</b> | <b>Subject entity is in service</b>      |
| <b>0A</b> | <b>DGN on subject entity failed</b>      |
| <b>91</b> | <b>Sync is not configured yet</b>        |
| <b>92</b> | <b>Boot TLI failed</b>                   |
| <b>93</b> | <b>TB type in hardware mismatches DB</b> |
| <b>AB</b> | <b>Bad sync mode</b>                     |
| <b>C8</b> | <b>Sync pack denied command</b>          |
| <b>C9</b> | <b>Syncs failed to cross couple</b>      |
| <b>CA</b> | <b>Mate sync pack denied command</b>     |
| <b>CB</b> | <b>Sync not completely reset</b>         |

## **RST,SYNC,TLI,CRO**

### **RESTORE CLOCK REFERENCE OSCILLATOR**

#### **Explanation Of Command**

This command requests the restoration of the synchronizer time base as a clock reference oscillator.

#### **Command**

[I.34111]

RST:FRM xy,SEQ ww:SYNC,TLI 3,CRO!

#### **Completion Message**

[O.34111]

M hh:mm:ss xy,ww n[vv] RST SYNC TLI 3 CRO COND 00 COMPL

#### **Denial Message**

[O.34111.01]

M hh:mm:ss xy,ww n[vv] RST SYNC TLI 3 CRO COND cc DNY

#### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**SYNC** - Synchronizer

**TLI** - Timing link interface

**CRO** - Clock reference oscillator

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>Explanation</b> |
|-----------|--------------------|
|-----------|--------------------|

|           |                                                                  |
|-----------|------------------------------------------------------------------|
| <b>02</b> | <b>Subject entity is not equipped</b>                            |
| <b>03</b> | <b>Subject entity is in service</b>                              |
| <b>0A</b> | <b>DGN on subject entity failed</b>                              |
| <b>0B</b> | <b>BOOT on subject entity failed</b>                             |
| <b>16</b> | <b>SYNC TB is not equipped</b>                                   |
| <b>A0</b> | <b>Not a CRO TLI</b>                                             |
| <b>A9</b> | <b>Both syncs are out-of-service</b>                             |
| <b>36</b> | <b>TD on one(both) sync(s) is not equipped or not in-service</b> |

## **RST,SYNC,TLI,SSP**

### **RESTORE SYNCHRONIZER'S TIMING LINK INTERFACE**

#### **Explanation Of Command**

This command requests the restoration of the synchronizer's timing link interface.

If the timing link interface is configured as a timing extractor, synchronizer sync port 0 or 1 must be specified.

#### **Command**

[I.34121]

**RST:FRM xy,SEQ ww:SYNC a,TLI m[,SSP b]!**

#### **Completion Message**

[O.34121]

**M hh:mm:ss xy,ww n[vv] RST SYNC a TLI m[ SSP b] COND 00 COMPL**

#### **Denial Message**

[O.34121.01]

**M hh:mm:ss xy,ww n[vv] RST SYNC a TLI m[ SSP b] COND cc DNY**

#### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**SYNC** - Synchronizer

**a** - SYNC number (0 or 1)

**TLI** - Timing link interface

**m** - TLI number (1 through 4)

**SSP** - Synchronizer synchronization port

**b** - SSP number (0 or 1)

**cc** - Hexadecimal condition code

#### **cc Explanation**

**02** Subject entity is not equipped

**03** Subject entity is in service

**0A** DGN on subject entity failed

**16** SYNC TB is not equipped

**17** SYNC is out of service

**33** Wrong TLI type



## **RST,TSI**

### **RESTORE TIME SLOT INTERCHANGE**

#### **Explanation Of Command**

This command is applicable only to the noncapacity expansion frame (NCEF).

It requests the restoration of the time slot interchange to service.

#### **Command**

[I.34221]

**RST:FRM xy,SEQ ww:TSI sft!**

#### **Completion Message**

[O.34221]

**M hh:mm:ss xy,ww n[vv] RST TSI sft COND cc COMPL**

#### **Denial Message**

[O.34221.01]

**M hh:mm:ss xy,ww n[vv] RST TSI sft COND cc DNY**

#### **Autonomous Message**

Not applicable.

---

### Explanation Of Parameters

---

- TSI** - Time slot interchange
- s** - Side No. (0 or 1).
- f** - From unit No. (1 through 6).
- t** - To unit No. (1 through 6).

- cc** - Hexadecimal condition code

**cc**    *Explanation*

- 02**    Subject entity is not equipped
- 03**    Subject entity is in service
- 0A**    DGN on subject entity failed
- 0B**    BOOT on subject entity failed
- 16**    SYNC TB is not equipped
- 17**    SYNC is out of service
- 18**    CCNI is out of service
- 1B**    CCN side s is in service
- CF**    SYNC is inservice but failed
- D3**    CCNI is inservice but failed
- D5**    CCB is not equipped
- D6**    CCB is out of service
- D7**    CCB is inservice but failed

---

## **RST,TSIS,CCN,ALL**

---

### **RESTORE TIME SLOT INTERCHANGES**

#### **Explanation Of Command**

---

This command applies only to the noncapacity expansion frame (NCEF).

It requests the restoration of all in-service Time Slot Interchanges in the specified Cross-Connect Network side.

#### **Command**

---

[I.34241]

**RST:FRM xy,SEQ ww:TSIS,CCN s,ALL!**

#### **Completion Message**

---

[O.34241]

**M hh:mm:ss xy,ww n[vv] RST TSIS CCN s ALL 5 LN MSG:**

**TOTAL TSIS tt**

**sft r nn sft r nn sft r nn sft r nn sft r nn sft r nn**

**sft r nn sft r nn sft r nn sft r nn sft r nn sft r nn**

**sft r nn sft r nn sft r nn sft r nn sft r nn sft r nn**

**EOP**

**M hh:mm:ss xy,ww n[vv] RST TSIS CCN s ALL 5 LN MSG:**

**TOTAL TSIS tt**

**sft r nn sft r nn sft r nn sft r nn sft r nn sft r nn**

**sft r nn sft r nn sft r nn sft r nn sft r nn sft r nn**

**sft r nn sft r nn sft r nn sft r nn sft r nn sft r nn \**

**COND    COMPL**

### **Denial Message**

---

[O.34241.01]

M hh:mm:ss xy,ww n[vv] RST TSIS CCN s ALL COND cc DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**TSIS** - Time slot interchanges

**ALL** - All

**TOTAL** - Total

**tt** - Number of TSIs currently in service (01 through 36)

**CCN** - Cross-connect network

**s** - Cross-connect network side number (0 or 1)

**f** - From unit number (1 through 6)

**t** - To unit number (1 through 6)

**r** - Status

*r*

C

D

*Explanation*

COMPL

DNY

**nn** - Hexadecimal condition code for the particular TSI

for r = C

*nnExplanation*

00No condition

for r = D

*nnExplanation*

02

Subject entity is not equipped

03

Subject entity is in service

0A

Diagnostic (DGN) on subject entity failed

0B

Boot on subject entity failed

**COND** - Condition

**cc** - Completion condition code

To interpret values see cc.

**cc** - Hexadecimal condition code

**cc Explanation**

**00 No conditions**

**0C DGN on subject entity denied**

**16 SYNC TB is not equipped**

**17 SYNC is out of service**

**18 CCNI is out of service**

**1B CCN side s is in service**

**CF SYNC is inservice but failed**

**D3 CCNI is inservice but failed**

**D5 CCB is not equipped**

**D6 CCB is out of service**

**D7 CCB is inservice but failed**

---

## **RST,TSIS,CCN,UNIT,CONN**

---

### **RESTORE**

#### **Explanation Of Command**

---

This command applies only to the noncapacity expansion frame (NCEF). It requests the restoration of time slot interchanges (TSIs) that connect **UNIT q** to other specified units. **CCN s** specifies which cross-connect network side the TSIs are on.

If the optional connectivity field is omitted, then all TSIs connected to **UNIT q** are restored.

#### **Command**

---

[I.34231]

```
RST:FRM xy,SEQ ww:TSIS,CCN s,UNIT q \  
[,CONN(a[,b[,c[,d[,e[,f]]]]]])]!
```

#### **Completion Message**

---

[O.34231]

```
M hh:mm:ss xy,ww n[vv] RST TSIS CCN s UNIT q \  
[ CONN (a[ b[ c[ d[ e[ f]]]]]]]  
e LN MSG:  
sft r nn sft r nn sft r nn sft r nn sft r nn sft r nn  
sft r nn sft r nn sft r nn sft r nn sft r nn sft r nn  
COND cc COMPL
```

#### **Denial Message**

---

[O.34231.01]

```
M hh:mm:ss xy,ww n[vv] RST TSIS CCN s UNIT q \  
[ CONN (a[ b[ c[ d[ e[ f]]]]]]] COND cc DNY
```

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**UNIT** - Unit

**q** - Unit number containing TSIs (1 through 6)

**TSIS** - Time Slot Interchanges

**a, b, c, d, e, f**

- Unit numbers to which UNIT q can be connected

**CCN** - Cross-Connect Network

**sft** - CCN identifier

**s**

- Side number (0 or 1)

**f**

- FROM unit number (1 through 6)

**t**

- TO unit number (1 through 6)

**r** - Status

*r*

*Explanation*

C

COMPL

D

DNY

**nn** - Hexadecimal condition code for the particular TSI

for r = C

*nnExplanation*

00No condition

for r = D

*nnExplanation*

03Subject entity is in service

0ADiagnostic on subject entity failed

0BBoot on subject entity failed

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                |
|-----------|--------------------------------|
| <b>0B</b> | BOOT on subject entity failed  |
| <b>0C</b> | DGN on subject entity denied   |
| <b>10</b> | Unit is not equipped           |
| <b>16</b> | SYNC TB is not equipped        |
| <b>17</b> | SYNC is out of service         |
| <b>18</b> | CCNI is out of service         |
| <b>1B</b> | CCN side s is in service       |
| <b>27</b> | Illegal connectivity specified |
| <b>CF</b> | SYNC is inservice but failed   |
| <b>D3</b> | CCNI is inservice but failed   |
| <b>D5</b> | CCB is not equipped            |
| <b>D6</b> | CCB is out of service          |
| <b>D7</b> | CCB is inservice but failed    |



## **RST,UNIT,FC**

### **RESTORE UNIT**

#### **Explanation Of Command**

This command requests that a format converter of a facility terminating unit be restored to service.

#### **Command**

[I.34331]

RST:FRM xy,SEQ ww:UNIT [q]q,FC sb!

#### **Completion Message**

[O.34331]

M hh:mm:ss xy,ww n[vv] RST UNIT [q]q FC sb COND 00\  
COMPL

#### **Denial Message**

[O.34331.01]

M hh:mm:ss xy,ww n[vv] RST UNIT [q]q FC sb COND cc DNY

#### **Autonomous Message**

Not applicable.

### Explanation Of Parameters

---

- UNIT** - Unit
- [q]q** - Unit number (1 through 16)
- FC** - Format converter
- s** - Side number (0 or 1)
- b** - Format Converter number (1 through 4)
- cc** - Hexadecimal condition code

**cc**    *Explanation*

- 02** Subject entity is not equipped
- 03** Subject entity is in service
- 0A** DGN on subject entity failed
- 0B** BOOT on subject entity failed
- 10** Unit is not equipped
- 11** UC is out of service
- 12** UC is in service but failed
- 13** FTMI is not equipped
- 14** FTMI is out of service
- 16** SYNC TB is not equipped
- 17** SYNC is out of service
- 18** CCNI is out of service
- 1B** CCN side s is in service
- 1F** FTMI is in service but failed
- 40** FC out of service
- CE** CCI is out of service
- CF** SYNC is inservice but failed
- D1** CCI is not present
- D2** ETSI is not present
- D3** CCNI is inservice but failed
- D4** CCI is inservice but failed
- D5** CCB is not equipped
- D6** CCB is out of service
- D7** CCB is inservice but failed
- D8** ETSI is not equipped
- D9** ETSI is out of service
- DA** ETSI is inservice but failed
- DB** FC is inservice but failed

## **RST,UNIT,FLI**

### **RESTORE FACILITY LINE INTERFACE**

#### **Explanation Of Command**

This command requests and reports the restoration of one facility line interface (FLI) in a DS3 unit.

#### **Command**

[I.34401]

RST:FRM xy,SEQ ww:UNIT [q]q,FLI k!

#### **Completion Message**

[O.34401]

M hh:mm:ss xy,ww n[vv] RST UNIT [q]q FLI k COMPL

#### **Denial Message**

[O.34401.01]

M hh:mm:ss xy,ww n[vv] RST UNIT [q]q FLI k COND cc DNY

#### **Autonomous Message**

Not applicable.

## Explanation Of Parameters

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**FLI** - Facility line interface

**k** - FLI identifier

*k*

*Explanation*

S

Service side

P

Protection side

**cc** - Hexadecimal condition code

**cc** *Explanation*

**02** Subject entity is not equipped

**03** Subject entity is in service

**0A** DGN on subject entity failed

**0B** BOOT on subject entity failed

**10** Unit is not equipped

**11** UC is out of service

**12** UC is in service but failed

**16** SYNC TB is not equipped

**17** SYNC is out of service

**18** CCNI is out of service

**B1** FMT is out of service

**CE** CCI is out of service

**CF** SYNC is inservice but failed

**D1** CCI is not present

**D2** ETSI is not present

**D3** CCNI is inservice but failed

**D4** CCI is inservice but failed

**D5** CCB is not equipped

**D6** CCB is out of service

**D7** CCB is inservice but failed

**D8** ETSI is not equipped

**D9** ETSI is out of service

**DA** ETSI is inservice but failed

**DD** FMT is in service but failed

## **RST,UNIT,FMT**

### **RESTORE FORMATTER**

#### **Explanation Of Command**

This message requests and reports the restoration of one Formatter (FMT) in a DS3 Unit. If the restoration of the FMT causes all the packs in the associated side to be in service, the side will be marked In-Service.

#### **Command**

[I.34411]

RST:FRM xy,SEQ ww:UNIT [q]q,FMT s!

#### **Completion Message**

[O.34411]

M hh:mm:ss xy,ww n[vv] RST UNIT [q]q FMT s COMPL

#### **Denial Message**

[O.34411.01]

M hh:mm:ss xy,ww n[vv] RST UNIT [q]q FMT s COND cc DNY

#### **Autonomous Message**

Not applicable.

## Explanation Of Parameters

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**FMT** - Formatter

**s** - FMT side

|          |                    |
|----------|--------------------|
| <i>s</i> | <i>Explanation</i> |
| 0        | Side 0             |
| 1        | Side 1             |

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                                    |
|-----------|----------------------------------------------------|
| <b>02</b> | Subject entity is not equipped                     |
| <b>03</b> | Subject entity is in service                       |
| <b>0A</b> | DGN on subject entity failed                       |
| <b>0B</b> | BOOT on subject entity failed                      |
| <b>10</b> | Unit is not equipped                               |
| <b>11</b> | UC is out of service                               |
| <b>12</b> | UC is in service but failed                        |
| <b>16</b> | SYNC TB is not equipped                            |
| <b>17</b> | SYNC is out of service                             |
| <b>18</b> | CCNI is out of service                             |
| <b>0D</b> | Unpesteing error registers for subj. entity failed |
| <b>CE</b> | CCI is out of service                              |
| <b>CF</b> | SYNC is inservice but failed                       |
| <b>D1</b> | CCI is not present                                 |
| <b>D2</b> | ETSI is not present                                |
| <b>D3</b> | CCNI is inservice but failed                       |
| <b>D4</b> | CCI is inservice but failed                        |
| <b>D5</b> | CCB is not equipped                                |
| <b>D6</b> | CCB is out of service                              |
| <b>D7</b> | CCB is inservice but failed                        |
| <b>D8</b> | ETSI is not equipped                               |
| <b>D9</b> | ETSI is out of service                             |
| <b>DA</b> | ETSI is inservice but failed                       |

## **RST,UNIT,FTMI,DSPI**

### **RESTORE FTMI or DSPI**

#### **Explanation Of Command**

This command allows restoral of a facility terminating module interface or a digital signal processor interface to service.

#### **Command**

[I.34321]

**RST:FRM xy,SEQ ww:UNIT [q]q,{FTMI d|DSPI}!**

#### **Completion Message**

[O.34321]

**M hh:mm:ss xy,ww n[vv] RST UNIT [q]q,{FTMI d|DSPI} COND 00  
COMPL**

#### **Denial Message**

[O.34321.01]

**M hh:mm:ss xy,ww n[vv] RST UNIT [q]q {FTMI d|DSPI} COND cc DNY**

#### **Autonomous Message**

Not applicable.

---

### Explanation Of Parameters

---

- UNIT** - Unit
- [q]q** - Unit number (1 through 16)
- FTMI** - Facility terminating module interface
- d** - FTMI number (1 through 4).
- DSPI** - Digital signaling processing interface
- COND** - Condition
- cc** - Hexadecimal condition code

**cc**    *Explanation*

- 02** Subject entity is not equipped
- 03** Subject entity is in service
- 0A** DGN on subject entity failed
- 0B** BOOT on subject entity failed
- 10** Unit is not equipped
- 11** UC is out of service
- 12** UC is in service but failed
- 16** SYNC TB is not equipped
- 17** SYNC is out of service
- 18** CCNI is out of service
- CE** CCI is out of service
- CF** SYNC is inservice but failed
- D1** CCI is not present
- D2** ETSI is not present
- D3** CCNI is inservice but failed
- D4** CCI is inservice but failed
- D5** CCB is not equipped
- D6** CCB is out of service
- D7** CCB is inservice but failed
- D8** ETSI is not equipped
- D9** ETSI is out of service
- DA** ETSI is inservice but failed



## **RST,UNIT,MIU,INCL**

### **RESTORE MULTIPLEXER INTERFACE UNIT**

#### **Explanation Of Command**

The purpose of this command is to add ANSI performance monitoring capability to an already operating Multiplexer-Multiplexer Interface Unit Functional Group(s) (MMFG) in a DS3 unit without interrupting service. This command follows a **GRTH UNIT MIU TYPE** command for an already-operating MMFG with only the MXR circuit pack in service.

Failure to restore all equipped TA-type tributary Network Processing Circuits will result in denial of the whole command. The **INCL** option will be ignored if the MMFG is not selected to carry service.

An **RST IN PROGRESS** message will be generated every 20 seconds while this command is being executed.

A completion or denial message occurs for each MIU.

#### **Command**

[I.34431]

**RST:FRM xy,SEQ ww:UNIT [q]q,MIU c[-d][,INCL]!**

#### **Completion Message**

[O.34431]

**M hh:mm:ss xy,ww n[vv] RST UNIT [q]q MIU a[ INCL] TYPE mnxyz \**  
**COMPL**

## Denial Message

[O.34431.01]

M hh:mm:ss xy,ww n[vv] RST UNIT [q]q MIU a[ INCL] COND cc DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**MIU** - Multiplexer interface unit

**c, d** - The number of the MIU in the DS3 Unit (P, 1 through 6)

**a** - The number of the MIU within the range of c and d

**INCL** - Restore all equipped TA type tributary NPCs.

Failure to restore *all* equipped NPCs will result in denial of the whole command. This keyword will be ignored if the associated MMFG is not selected to carry service.

**TYPE** - Type

**mnxyz** - NPC-type identifier

mnxyz

Explanation

MI100

Multiplexer interface unit

----

Type unassigned

**cc** - Hexadecimal condition code

**cc** *Explanation*

**10** Unit is not equipped

**11** UC is out of service

**12** UC is in service but failed

**16** SYNC TB is not equipped

**17** SYNC is out of service

**18** CCNI is out of service

**24** Unit type error

**B3** MIU is already in service

**BF** MIU is not equipped

**99** No Facility Line Interface (FLI) is In Service

**cc**    *Explanation*

- 9A**    Formatter (FMT) on active CCN side is Out-Of-Service
- A6**    The MIU diagnostics failed
- A7**    The MIU boot failed
- AE**    MXR is failed
- B2**    MXR is out of service
- B7**    The associated MXR is In-Service but pested
- CE**    CCI is out of service
- CF**    SYNC is inservice but failed
- D1**    CCI is not present
- D2**    ETSI is not present
- D3**    CCNI is inservice but failed
- D4**    CCI is inservice but failed
- D5**    CCB is not equipped
- D6**    CCB is out of service
- D7**    CCB is inservice but failed
- D8**    ETSI is not equipped
- D9**    ETSI is out of service
- DA**    ETSI is inservice but failed
- DD**    FMT is in service but failed
- DF**    FLI is inservice but failed

## **RST,UNIT,MMFG,INCL**

### **RESTORE MMFG**

#### **Explanation Of Command**

This message requests and reports the restoration of one or more Multiplexer-Multiplexer Interface Unit Functional Groups (MMFG) in a DS3 Unit. One MMFG consist of one Multiplexer (MXR), and one Multiplexer Interface Unit (MIU). Failure to restore either the MXR or the MIU will result in a denial. There is also an option to restore all equipped NPCs associated with the MMFG using this command.

Failure to restore any of the NPCs will result in denial of the whole command. The **INCL** option will be ignored if the MMFG is not selected to carry service.

A **RST IN PROGRESS** message will be generated every 20 seconds while this command is being executed.

A completion or denial message occurs for each MMFG.

#### **Command**

[I.34421]

**RST:FRM xy,SEQ ww:UNIT [q]q,MMFG c[-d][,INCL]!**

#### **Completion Message**

[O.34421]

**M hh:mm:ss xy,ww n[vv] RST UNIT [q]q MMFG a[ INCL] 2 LN MSG:  
MXR a TYPE mnxyz[ MIU a TYPE MI100] COMPL**

## Denial Message

[O.34421.01]

**M** hh:mm:ss xy,ww n[vv] RST UNIT [q]q MMFG c[ INCL] \  
COND cc DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**MMFG** - Multiplexer-multiplexer interface unit functional group

**c, d** - MMFG number within the unit (P,1 through 6)

**INCL** - Inclusive

Restore all tributary NPCs that are equipped. Failure to restore any of the NPCs will result in the denial of the whole command. This INCL option will be ignored if the MMFG is not selected to carry service.

**TYPE** - Type

**mnxyz** - Type identifier

**mn** - Multiplexer type

*mn*

*Type*

MX

DS3 multiplexer (MXR)

EX

Enhanced DS3 multiplexer (EMXR) circuit pack

Default is the MX type for backward compatibility.

**xyz** - Format type

x

- The DS3 framing format

*xFormat*

1M13 (default)

2C-bit parity

y

- Not assigned (the only valid value is 0)

z

- Not assigned (the only valid value is 0)

**MIU** - Multiplexer interface unit

**a** - The number of the MMFG/MXR/MIU within the range of c and d.

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                                       |
|-----------|-------------------------------------------------------|
| <b>10</b> | Unit is not equipped                                  |
| <b>11</b> | UC is out of service                                  |
| <b>12</b> | UC is in service but failed                           |
| <b>16</b> | SYNC TB is not equipped                               |
| <b>17</b> | SYNC is out of service                                |
| <b>18</b> | CCNI is out of service                                |
| <b>24</b> | Unit type error                                       |
| <b>99</b> | No Facility Line Interface (FLI) is In Service        |
| <b>9A</b> | Formatter (FMT) on active CCN side is Out-Of-Service  |
| <b>9B</b> | The MXR is not grown                                  |
| <b>9C</b> | The MMFG is already In-Service                        |
| <b>A4</b> | The MXR diagnostics failed                            |
| <b>A6</b> | The MIU diagnostics failed                            |
| <b>A7</b> | The MIU boot failed                                   |
| <b>B6</b> | The MXR boot failed                                   |
| <b>CE</b> | CCI is out of service                                 |
| <b>CF</b> | SYNC is inservice but failed                          |
| <b>D1</b> | CCI is not present                                    |
| <b>D2</b> | ETSI is not present                                   |
| <b>D3</b> | CCNI is inservice but failed                          |
| <b>D4</b> | CCI is inservice but failed                           |
| <b>D5</b> | CCB is not equipped                                   |
| <b>D6</b> | CCB is out of service                                 |
| <b>D7</b> | CCB is inservice but failed                           |
| <b>D8</b> | ETSI is not equipped                                  |
| <b>D9</b> | ETSI is out of service                                |
| <b>DA</b> | ETSI is inservice but failed                          |
| <b>DD</b> | FMT is in service but failed                          |
| <b>DF</b> | FLI is inservice but failed                           |
| <b>08</b> | Mismatch between service MXR and protection MXR types |

## **RST,UNIT,UC**

### **RESTORE UNIT CONTROLLER**

#### **Explanation Of Command**

This message requests the restoration of the unit controller to service.

#### **Command**

[I.34311]

RST:FRM xy,SEQ ww:UNIT [q]q,UC!

#### **Completion Message**

[O.34311]

M hh:mm:ss xy,ww n[vv] RST UNIT [q]q UC COND cc COMPL

[O.34312]

M hh:mm:ss xy,ww n[vv] RST IN PROGRESS

#### **Denial Message**

[O.34311.01]

M hh:mm:ss xy,ww n[vv] RST UNIT [q]q UC COND cc DNY

#### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**UC** - Unit controller

**COND** - Condition

**cc** - Completion condition code (hexadecimal)

To interpret values of cc see cc below

**cc** - Hexadecimal condition code

| <b>cc</b> | <i>Explanation</i> |
|-----------|--------------------|
|-----------|--------------------|

|           |                                |
|-----------|--------------------------------|
| <b>02</b> | Subject entity is not equipped |
|-----------|--------------------------------|

|           |                              |
|-----------|------------------------------|
| <b>03</b> | Subject entity is in service |
|-----------|------------------------------|

|           |                              |
|-----------|------------------------------|
| <b>0A</b> | DGN on subject entity failed |
|-----------|------------------------------|

|           |                               |
|-----------|-------------------------------|
| <b>0B</b> | BOOT on subject entity failed |
|-----------|-------------------------------|

|           |                            |
|-----------|----------------------------|
| <b>42</b> | RST failed to boot program |
|-----------|----------------------------|

|           |                   |
|-----------|-------------------|
| <b>47</b> | Failed to boot DB |
|-----------|-------------------|

|           |                                                                  |
|-----------|------------------------------------------------------------------|
| <b>48</b> | Failed to boot journal--recurrence indicates database corruption |
|-----------|------------------------------------------------------------------|

|           |                     |
|-----------|---------------------|
| <b>49</b> | Failed to boot unit |
|-----------|---------------------|

|           |                                       |
|-----------|---------------------------------------|
| <b>51</b> | General boot failure (vanilla flavor) |
|-----------|---------------------------------------|

|           |                               |
|-----------|-------------------------------|
| <b>18</b> | DSPI not in service or failed |
|-----------|-------------------------------|

|           |                       |
|-----------|-----------------------|
| <b>43</b> | RST failed to boot DB |
|-----------|-----------------------|

|           |                                                                |
|-----------|----------------------------------------------------------------|
| <b>C4</b> | XMIT continuity test won't be run: no XMIT timeslots available |
|-----------|----------------------------------------------------------------|

|           |                                                                            |
|-----------|----------------------------------------------------------------------------|
| <b>C6</b> | No available timeslots on any of the inservice NPCS associated with FC/FMT |
|-----------|----------------------------------------------------------------------------|



---

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---

## **SAVE — SC**

---

This section documents the commands **SAVE** through **SC**.

## **SAVE**

---

### **SAVE COMPONENT COMMANDS**

#### **Explanation Of Command**

---

This command is used to save the contents of a macro while in the macro session.

#### **Command**

---

[I.19081]

SAVE[:FRM xy,SEQ ww:]!

#### **Completion Message**

---

[O.19081]

M hh:mm:ss xy,ww n[vv] SAVE <macro name> SPACE sss \  
USED uuu COMPL

#### **Denial Message**

---

[O.19081.01]

M hh:mm:ss xy,ww n[vv] SAVE <macro name> SPACE sss \  
USED uuu COND cc DNY

#### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

macro name

- The name of the macro to be saved

**SPACE** - Space

**sss** - Number representing the percent of total disk space allocated to macro storage

**USED** - Used

**uuu** - Number representing the percent of the allocated disk space (sss) being used to store macros

**cc** - Hexadecimal condition code

**cc**    *Explanation*

- 60**    User macro/map space is full
- 61**    System macro/map space is full
- 65**    Command invalid while backup in progress
- 6E**    No edit session active
- 6C**    File is empty

---

## **SC,ALM,CGA,DLF,INH,MRV,MSW,PSW,RT,DL**

### **SLC® ALARM**

#### **Explanation Of Command**

This autonomous output message reports a SLC® carrier interface related alarm. The message provides the affected bank, the alarm-causing digroup, the associated network processing circuit (NPC) number, and the state and location of the alarm.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

#### **Nonhierarchical**

[O.65131]

```
pahh:mm:ss xy,ww  SC ALM <state>[ {CGA|DLF|INH|MRV|MSW|PSW}] {RT|DL} \  
ffff {DGA|DGB|DGC|DGD|DGP} [s]abc[ k] <location> COMPL
```

## Hierarchical

[O.65131]

**pahh:mm:ss xy,ww SC ALM <state>[ {CGA|DLF|INH|MRV|MSW|PSW}] {RT|DL} \**  
**ffff {DGA|DGB|DGC|DGD|DGP} uvmnp[ k] <location> COMPL**

## Explanation Of Parameters

The permissible output parameters are somewhat different if the CGA option is present in this message. These are noted below.

**pa** - Priority of action

| <i>pa</i> | <i>Explanation</i> |
|-----------|--------------------|
|-----------|--------------------|

|   |                                |
|---|--------------------------------|
| I | Information (Only without CGA) |
|---|--------------------------------|

|   |                                                         |
|---|---------------------------------------------------------|
| * | Minor alarm, non-service-affecting (no CGA declaration) |
|---|---------------------------------------------------------|

|    |                                                                                           |
|----|-------------------------------------------------------------------------------------------|
| ** | Major alarm, service-affecting, 1 to 5 NPCs including AIS state.<br>(With or without CGA) |
|----|-------------------------------------------------------------------------------------------|

|    |                                                                               |
|----|-------------------------------------------------------------------------------|
| *C | Critical alarm, service-affecting, more than 5 NPCs. (With or<br>without CGA) |
|----|-------------------------------------------------------------------------------|

**SC** - SLC® carrier

**ALM** - Alarm

**state** - Alarm state

| <i>state</i> | <i>Explanation</i> |
|--------------|--------------------|
|--------------|--------------------|

|    |                                   |
|----|-----------------------------------|
| MJ | Major alarm (with or without CGA) |
|----|-----------------------------------|

|    |                                  |
|----|----------------------------------|
| MN | Minor alarm (no CGA declaration) |
|----|----------------------------------|

|      |       |
|------|-------|
| IDLD | Idled |
|------|-------|

**MJ** - Major

**MN** - Minor

**IDLD** - Idled

**CGA** - Carrier group alarm

**DLF** - Data link failure

**INH** - Inhibition (Protection switch)

**MRV** - Manually Removed

**MSW** - Manual (protection) switch

**PSW** - Autonomous protection switch

- RT** - Remote terminal
- DL** - Digital carrier line unit (DCLU)
- ffff** - Bank identification number (0000 through 9999)
- DGA** - SLC Carrier Digroup A
- DGB** - SLC Carrier Digroup B
- DGC** - SLC Carrier Digroup C
- DGD** - SLC Carrier Digroup D
- DGP** - SLC Carrier Digroup P
- NPC** - Network processing circuit
- [s]abc** - The 3- or 4-digit nonhierarchical NPC number

The valid numbers are:

If NPC numbers are expressed in three digits, the valid values are:

DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |



| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

**uvmnp** - Hierarchical NPC number

DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

**k** - Alarm type

*k Explanation*

|   |                     |
|---|---------------------|
| Y | Yellow              |
| R | Red                 |
| B | Both yellow and red |

**location**

- Alarm location

*location Explanation*

|     |                                                  |
|-----|--------------------------------------------------|
| CLF | Carrier loop failure (with or without CGA)       |
| NE  | Near end (the DACS II end) (with or without CGA) |
| FE  | Far end                                          |

## **SC,ALM,COMP,RT,INDX,LBRV,AB,CD,P,ALP**

### **SLC® CARRIER ALARM**

#### **Explanation Of Command**

This output message reports the existence of a minor alarm between a SLC® Series 5 carrier feature package C (FPC) remote terminal (RT) and the DACS II frame. Also reported is any incompatible provisioning between the two ends. The message keywords indicate the reason for the incompatibility.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.65171]

I hh:mm:ss xy,ww SC ALM COMP <state> RT ffff[ INDX][ LBRV]\  
[ AB][ CD][ P][ ALP] COMPL

### **Explanation Of Parameters**

---

**ALM** - Alarm

**COMP** - Compatibility

**state** - Alarm state

**MN** - Minor

**IDLD** - Idled

**RT** - Remote Terminal

**ffff** - RT bank id number

#### **reasons**

- Reasons for the alarm

**INDX** - Index

The release generic index value does not match.

**LBRV** - Low bit rate voice

The low bit rate voice byte value does not match.

**AB** - A and B

Digroups A and B provisioning information does not match.

**CD** - C and D

Digroups C and D provisioning information does not match.

**P** - Protection

Digroup P provisioning information does not match.

**ALP** - Alpha

The ALPHA byte value does not match.

---

## **SC,ALM,DPLX,SYNC,CCB,CCNI,CCI,TSI,ETSI**

### **SLC® ALARM DUPLEX**

#### **Explanation Of Command**

This autonomous output message reports the existence of an alarm and duplex failure on the frame. Duplex means failures that affect both sides of the system. The entity printed in the message is the most recently failed side.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

#### **Nonhierarchical**

[O.65151]

```
I hh:mm:ss xy,ww SC ALM <state> DPLX {SYNC a|CCB sf|CCNI s|\
CCI s|TSI sft|ETSI sqq|FC sb UNIT [q]q|FMT s UNIT [q]q|\
NPC [s]abc SIDE s} NE COMPL
```

## Hierarchical

---

[O.65151]

I hh:mm:ss xy,ww SC ALM <state> DPLX {SYNC a|CCB sf|CCNI s|\  
CCI s|TSI sft|ETSI sqq|FC sb UNIT [q]q|FMT s UNIT [q]q|\  
NPC uvmp SIDE s} NE COMPL

## Explanation Of Parameters

---

**SC** - SLC®

**DPLX** - Duplex

**ALM** - Alarm

**state** - Alarm status

| <i>state</i> | <i>Explanation</i> |
|--------------|--------------------|
|--------------|--------------------|

|    |                |
|----|----------------|
| CR | Critical alarm |
|----|----------------|

|      |       |
|------|-------|
| IDLD | Idled |
|------|-------|

**SYNC** - Synchronizer

**a** - Synchronizer number (0 or 1)

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**CCB** - Cross-connect buffer

**CCNI** - Cross-connect network interface

**SIDE** - Side

**s** - Side number (0 or 1)

**f** - CCB number (1 through 6)

**TSI** - Time slot interchange

**t** - TSI number (1 through 6)

**CCI** - Clock and control interface

**ETSI** - Expanded time slot interchanger

**s** - Side number (0 or 1)

**FC** - Format converter

**b** - Module Number (1, 2, 3, or 4)

**FMT** - Formatter

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical DSPU NPC number

The valid numbers are:

If NPC numbers are expressed in three digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

| Unit<br>1  | Unit<br>2  | Unit<br>3  | Unit<br>4  | Unit<br>5  | Unit<br>6  |
|------------|------------|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| <b>001</b> | <b>161</b> | <b>321</b> | <b>481</b> | <b>641</b> | <b>801</b> |
| <b>021</b> | <b>181</b> | <b>341</b> | <b>501</b> | <b>661</b> | <b>821</b> |
| <b>041</b> | <b>201</b> | <b>361</b> | <b>521</b> | <b>681</b> | <b>841</b> |
| <b>061</b> | <b>221</b> | <b>381</b> | <b>541</b> | <b>701</b> | <b>861</b> |
| <b>081</b> | <b>241</b> | <b>401</b> | <b>561</b> | <b>721</b> | <b>881</b> |
| <b>101</b> | <b>261</b> | <b>421</b> | <b>581</b> | <b>741</b> | <b>901</b> |
| <b>121</b> | <b>281</b> | <b>441</b> | <b>601</b> | <b>761</b> | <b>921</b> |
| <b>141</b> | <b>301</b> | <b>461</b> | <b>621</b> | <b>781</b> | <b>941</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

| Unit<br>1   | Unit<br>2   | Unit<br>3   | Unit<br>4   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0001</b> | <b>0161</b> | <b>0321</b> | <b>0481</b> |
| <b>0021</b> | <b>0181</b> | <b>0341</b> | <b>0501</b> |
| <b>0041</b> | <b>0201</b> | <b>0361</b> | <b>0521</b> |
| <b>0061</b> | <b>0221</b> | <b>0381</b> | <b>0541</b> |
| <b>0081</b> | <b>0241</b> | <b>0401</b> | <b>0561</b> |
| <b>0101</b> | <b>0261</b> | <b>0421</b> | <b>0581</b> |
| <b>0121</b> | <b>0281</b> | <b>0441</b> | <b>0601</b> |
| <b>0141</b> | <b>0301</b> | <b>0461</b> | <b>0621</b> |
| Unit<br>5   | Unit<br>6   | Unit<br>7   | Unit<br>8   |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0641</b> | <b>0801</b> | <b>0961</b> | <b>1121</b> |
| <b>0661</b> | <b>0821</b> | <b>0981</b> | <b>1141</b> |
| <b>0681</b> | <b>0841</b> | <b>1001</b> | <b>1161</b> |
| <b>0701</b> | <b>0861</b> | <b>1021</b> | <b>1181</b> |
| <b>0721</b> | <b>0881</b> | <b>1041</b> | <b>1201</b> |
| <b>0741</b> | <b>0901</b> | <b>1061</b> | <b>1221</b> |
| <b>0761</b> | <b>0921</b> | <b>1081</b> | <b>1241</b> |
| <b>0781</b> | <b>0941</b> | <b>1101</b> | <b>1261</b> |
| Unit<br>9   | Unit<br>10  | Unit<br>11  | Unit<br>12  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1281</b> | <b>1441</b> | <b>1601</b> | <b>1761</b> |
| <b>1301</b> | <b>1461</b> | <b>1621</b> | <b>1781</b> |
| <b>1321</b> | <b>1481</b> | <b>1641</b> | <b>1801</b> |
| <b>1341</b> | <b>1501</b> | <b>1661</b> | <b>1821</b> |
| <b>1361</b> | <b>1521</b> | <b>1681</b> | <b>1841</b> |
| <b>1381</b> | <b>1541</b> | <b>1701</b> | <b>1861</b> |
| <b>1401</b> | <b>1561</b> | <b>1721</b> | <b>1881</b> |
| <b>1421</b> | <b>1581</b> | <b>1741</b> | <b>1901</b> |

| Unit<br>13  | Unit<br>14  | Unit<br>15  | Unit<br>16  |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1921</b> | <b>2081</b> | <b>2241</b> | <b>2401</b> |
| <b>1941</b> | <b>2101</b> | <b>2261</b> | <b>2421</b> |
| <b>1961</b> | <b>2121</b> | <b>2281</b> | <b>2441</b> |
| <b>1981</b> | <b>2141</b> | <b>2301</b> | <b>2461</b> |
| <b>2001</b> | <b>2161</b> | <b>2321</b> | <b>2481</b> |
| <b>2021</b> | <b>2181</b> | <b>2341</b> | <b>2501</b> |
| <b>2041</b> | <b>2201</b> | <b>2361</b> | <b>2521</b> |
| <b>2061</b> | <b>2221</b> | <b>2381</b> | <b>2541</b> |

**uvmnp** - Hierarchical DSPU NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The valid values are listed below:

MB, SR, and MJ type numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

| Unit         | Module     | NPC       |
|--------------|------------|-----------|
| <b>01-16</b> | <b>1-8</b> | <b>01</b> |

**NE** - Near end

**IDLD** - Idled



## **SC,ALM,MC,UC,FTMI,DSPI,NE**

### **SLC® CARRIER ALARM**

#### **Explanation Of Command**

This autonomous output message reports an alarm and a possible service-affecting failure. The failures could be the main controller, facility terminating module interface (FTMI), or the digital signal processing interface (DSPI) circuit pack.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.65161]

I hh:mm:ss xy,ww SC ALM <state> {MC|UC [q]q|FTMI [q]qb|\  
DSPI [q]q} NE COMPL

### **Explanation Of Parameters**

---

**MC** - Main controller

**UC** - Unit controller

**[q]q** - Unit number (1 through 16)

**FTMI** - Facility terminating module interface

**[q]qb** - FTMI identifier

**[q]q** - Unit number (see above)

**b** - FTMI number (1 through 4)

**DSPI** - Digital signal processing interface

**[q]q** - Unit number (see above)

**state** - Alarm state

**MJ** - Major

**MN** - Minor

**IDLD** - Idled

**NE** - Near End

## **SC,ALM,RT,DL,FE**

### **SLC® CARRIER ALARM**

#### **Explanation Of Command**

This output message reports the existence of a power (PWR) or miscellaneous (MISC) alarm and its state at the far end.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.65141]

pahh:mm:ss xy,ww SC ALM[ <alarm type>] <state> {RT|DL} \  
ffff[ FE] COMPL

## Explanation Of Parameters

---

**RT** - Remote Terminal

**DL** - Digital Carrier Line Unit (DCLU)

**ffff** - Bank id number (0000 to 9999)

### **alarm type**

- The type of SLC Carrier failure or alarm

| type   | Explanation                                               |
|--------|-----------------------------------------------------------|
| PWR    | Power failure alarm                                       |
| MISC   | Miscellaneous alarm (SLC 96 Carrier only)                 |
| MISC1  | Miscellaneous alarm (SLC Series 5 Carrier FPC only)       |
| MISC2  | Miscellaneous alarm (SLC Series 5 Carrier FPC only)       |
| RGF    | Ringing Generator Failure (SLC Series 5 Carrier FPC only) |
| EEPROM | EEPROM alarm (SLC Series 5 Carrier FPC only)              |
| COMP   | Compatibility alarm (SLC Series 5 Carrier FPC only)       |

**state** - Alarm state

*state*      *Explanation*

|      |             |
|------|-------------|
| MJ   | Major alarm |
| MN   | Minor alarm |
| IDLD | Idled       |

**pa** - Priority of action

*pa*      *Explanation*

|    |                                                                 |
|----|-----------------------------------------------------------------|
| *  | Minor alarm, not service-affecting                              |
| ** | Major alarm, service-affecting, 1 to 5 NPCs including AIS state |

**FE** - Far End

---

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## **SCNT — SECH**

---

This section documents the commands **SCNT** through **SECH**.

---

## **SCNT,RATE,MPTM,MJU,MA**

---

### **SUBRATE TERMINATED CROSS-CONNECTION**

#### **Explanation Of Command**

---

This command performs a subrate terminated multipoint cross-connection of **MJU ssss**.

The master leg of the multipoint circuit (MPTM) is specified by digroup **abc**, channel **ddd**, and customer number **ff**, and serves as the reference for addressing all MJUs and branches in the circuit.

The command inserts the Unassigned multiplexer channel (UMC) code towards both the upstream (MJU) and downstream (branch facility) directions of the cross-connected branch. If a digroup and channel of a customer to be connected to a branch is error corrected, termination takes place after error correction is performed. If no branch field appears in the command, it is denied since there is nothing to terminate.

MJU control legs are not terminated with this command. This includes the control leg of MJU 0001 that is connected to the multipoint master. MJU control legs can be terminated using the STST command. By not terminating control legs, the user can set up a circuit using a mixture of SCNT commands (to connect to terminated branches) and SCON commands (to connect to unterminated or active branches). Also, by not terminating the multipoint master and MJU control legs, transmission to and from the active (not terminated) customers is always preserved.

All channels [s]abcddd and [t]ghijj must be established before they can be cross-connected with SCNT.

#### **Command**

---

#### **Nonhierarchical**

---

[I.19321]

```
SCNT:FRM xy,SEQ ww:[RATE rr,]MPTM [s]abcddd[/ff],MJU ssss\  
[,MA(tttt,u)],<branch>[,<branch>][,<branch>][,<branch>]!
```

### **Hierarchical**

---

[I.19321]

SCNT:FRM xy,SEQ ww:[RATE rr,]MPTM uvmnpddd[/ff],MJU ssss\  
[,MA(tttt,u)],<branch>[,<branch>][,<branch>][,<branch>]!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.19321]

M hh:mm:ss xy,ww n[vv] SCNT RATE rr MPTM [s]abcdddd/ff \  
MJU ssss 4 LN MSG:  
[MA tttt,u ]<branch>[ <branch>][ <branch>][ <branch>]  
NEW MJU ssss MA {tttt,u|MPTM} s BR1 <data> s BR2 <data> s  
BR3 <data> s BR4 <data> s \  
COMPL

### **Hierarchical**

---

[O.19321]

M hh:mm:ss xy,ww n[vv] SCNT RATE rr MPTM uvmnpddd/ff \  
MJU ssss 4 LN MSG:  
[MA tttt,u ]<branch>[ <branch>][ <branch>][ <branch>]  
NEW MJU ssss MA {tttt,u|MPTM} s BR1 <data> s BR2 <data> s  
BR3 <data> s BR4 <data> s \  
COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.19321.01]

M hh:mm:ss xy,ww n[vv] SCNT RATE rr MPTM [s]abcdddd/ff \  
MJU ssss 3 LN MSG:  
[MA tttt,u ]<branch>[ <branch>][ <branch>][ <branch>]  
<reason> DNY

## Hierarchical

[O.19321.01]

M hh:mm:ss xy,ww n[vv] SCNT RATE rr MPTM uvmnpddd/ff \  
MJU ssss 3 LN MSG:  
[MA tttt,u ]<branch>[ <branch>][ <branch>][ <branch>]  
<reason> DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**RATE** - Rate

**rr** - Circuit rate specification (24, 48, 96, or 56)

*rr*      *Rate*

|    |                           |
|----|---------------------------|
| 24 | 2.4 kilobit/second (kb/s) |
| 48 | 4.8 kb/s                  |
| 96 | 9.6 kb/s                  |
| 56 | 56 kb/s                   |

**MPTM** - Multipoint Master

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number of the multipoint circuit master leg

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

|                              |                              |                              |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number of the multipoint circuit master leg

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM channel number of the multipoint circuit master leg

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - FROM customer number of the multipoint circuit master leg

|       |                                     |
|-------|-------------------------------------|
| 01    | (DS0A at 2.4, 4.8, 9.6, or 56 kb/s) |
| 01-20 | (DS0B at 2.4 kb/s)                  |
| 01-10 | (DS0B at 4.8 kb/s)                  |
| 01-05 | (DS0B at 9.6 kb/s)                  |

**NEW** - New

**MJU** - Multipoint junction unit

**ssss** - MJU number of cross-connected MJU (0001-9999)

This command cross-connects MJU ssss to MJU tttt.

**s** - Termination state of the MJU control or branch leg

Indicates whether either or both ends of the cross-connection are in the terminate and leave state. The "TO" direction is defined as the direction facing the MJU.

| <i>s</i> | <i>Explanation</i>                   |
|----------|--------------------------------------|
| R        | RELEASED. Neither side is terminated |
| F        | FROM side is terminated              |
| T        | TO side is terminated                |
| B        | BOTH sides are terminated            |

**BR1** - Branch 1

**BR2** - Branch 2

**BR3** - Branch 3

**BR4** - Branch 4



**MA** - Master

**tttt** - MJU number (0001 through 9999)

**u** - Branch number (1 through 4)

MA, tttt, and u specify an MJU to MJU connection. MJU tttt branch u is connected to the control leg of MJU ssss.

**branch** - External facility terminations for branches connected to MJU ssss.

The branch listed in the branch field is connected to the external facility termination, and is left in the terminate and leave state in both directions of transmission. The NEW MJU fields list the resulting cross-connection and terminate and leave status for all connections associated with MJU ssss. Note that the control leg and other branches not named in the SCNT command may be in any of the possible terminate and leave states as a result of previous cross-connect, change, or test access commands.

*branch*

BRI [t]ghijj[/II]

BR - Branch

i - Branch number of MJU ssss (1 through 4)

[t]ghijj[/II- External facility termination of added branch

[t]ghi - The 3- or 4-digit nonhierarchical NPC number of termination connected to BRI.

For valid values see [s]abc above.

jij - Channel number of termination connected to BRI.

For valid values see ddd above.

II - Customer number of termination connected to BRI

For valid values see ff above.

**data** - Branch connection data

| <i>data</i>  | <i>Explanation</i>                                |
|--------------|---------------------------------------------------|
| [0]000000/00 | Unassigned branch                                 |
| MJU-nnnn     | Branch connected to MJU nnnn (0002 through 9999). |

**reason**        - Reason for denial

reason

CHANNEL [s]abcddd IS A PARITY CHANNEL  
CUSTOMER NUMBER MUST BE SPECIFIED FOR DS-0B CHANNEL [s]abcddd  
CHANNEL [s]abcddd WITH SUBRATE ERROR CORRECTION AND RATE 56 NOT  
ALLOWED

CHANNEL [s]abcddd SUBRATE MULTIPLEXER RATE CANNOT SUPPORT  
CIRCUIT RATE

CHANNEL [s]abcddd/ff IS CONNECTED BUT NOT AS A MULTIPOINT MASTER  
LEG

CHANNEL [s]abcddd/ff IS SPECIFIED MORE THAN ONCE  
INVALID CHANNEL NUMBER FOR CHANNEL [s]abcddd

SPECIFIED RATE DOES NOT MATCH EXISTING CIRCUIT RATE  
MJU 1 MUST BE SPECIFIED AS THE MULTIPOINT MASTER LEG MJU  
CIRCUIT RATE MUST BE SPECIFIED  
MA FIELD MUST BE SPECIFIED FOR A NEW MJU  
MA FIELD MUST MATCH CIRCUIT  
MA FIELD NOT ALLOWED WHEN MJU 1 IS SPECIFIED  
MJU NAMED IN MJU AND MA FIELDS CANNOT BE THE SAME  
UPSTREAM BRANCH SPECIFIED IN MA FIELD IS ASSIGNED  
UPSTREAM BRANCH SPECIFIED IN MA FIELD DOES NOT EXIST

CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS-0A CHANNEL [s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS-0B CHANNEL [s]abcddd  
CHANNEL [s]abcddd IS OUT OF RANGE

CHANNEL [s]abcddd/ff IS ASSIGNED

BR i IS ALREADY ASSIGNED TO ANOTHER CHANNEL OR MJU  
BR i IS SPECIFIED MORE THAN ONCE

CHANNEL [s]abcddd IS NOT ESTABLISHED TO SUBRATE FEATURE  
CIRCUIT IS UNDER TEST

CHANNEL [s]abcddd/ff IS UNDER TEST

NPC [X]abc IS NOT PROVISIONED AS DIGROUP-A OF AN RT  
DIGROUP-B ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS  
NOT PROVISIONED

DIGROUP-C ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS  
NOT PROVISIONED

DIGROUP-D ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS  
NOT PROVISIONED

NPC [s]abc IS IN LINE LOOPBACK STATE

Maintenance Conditions

UNIT [q]q IS NOT FACILITY TERMINATING TYPE

TSI sft IS NOT EQUIPPED  
CCB sf IS NOT EQUIPPED  
ETSI sqq IS NOT EQUIPPED  
UNIT [q]q IS NOT EQUIPPED  
UNIT [q]q FTMI d IS NOT EQUIPPED  
UNIT [q]q FC sb IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED  
UNIT [q]q MXR c NOT EQUIPPED

CCNI s IS OUT-OF-SERVICE  
TSI sft IS OUT-OF-SERVICE  
CCB sf IS OUT-OF-SERVICE  
CCI s IS OUT-OF-SERVICE  
ETSI sqq IS OUT-OF-SERVICE  
UNIT [q]q IS OUT-OF-SERVICE  
UNIT [q]q FTMI d IS OUT-OF-SERVICE  
UNIT [q]q FC sb IS NOT EQUIPPED  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
NPC [s]abc IS OUT-OF-SERVICE  
NPC [s]abc SIDE s IS OUT-OF-SERVICE  
UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE

MAINTENANCE CONDITION PREVENTS COMPLETION OF THIS COMMAND  
ACTIVE CCN SIDE IS PESTED

CCNI s IS FAILED  
TSI sft IS FAILED  
CCB sf IS FAILED  
CCI s IS FAILED  
ETSI sqq IS FAILED  
UNIT [q]q IS FAILED  
UNIT [q]q FTMI d IS FAILED  
UNIT [q]q FC sb IS FAILED  
DSPI IN UNIT [q]q IS FAILED  
NPC [s]abc IS FAILED  
NPC [s]abc SIDE s IS FAILED  
UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED

## **SCNT,RATE,TPT,FROM,TO**

### **SUBRATE TERMINATED CROSS-CONNECTION**

#### **Explanation Of Command**

This command performs a terminated cross-connection of the FROM and TO subrate customers in both directions. The customer number fields are optional for DS-0A terminations. If not specified, the default value is 01.

#### **Command**

##### **Nonhierarchical**

[I.19301]

```
SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM [s]abcddd[/ff],\  
TO [t]ghijjj[/ll]!
```

##### **Hierarchical**

[I.19301]

```
SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM uvmnpddd[/ff],\  
TO wxkqrjjj[/ll]!
```

#### **Completion Message**

##### **Nonhierarchical**

[O.19301]

```
M hh:mm:ss xy,ww n[vv] SCNT RATE rr [s]abcddd/ff \  
[t]ghijjj/ll COMPL
```

## **Hierarchical**

---

[O.19301]

M hh:mm:ss xy,ww n[vv] SCNT RATE rr uvmnpddd/ff wxkqrjjj/ll \  
COMPL

## **Denial Message**

---

## **Nonhierarchical**

---

[O.19301.01]

M hh:mm:ss xy,ww n[vv] SCNT RATE rr FROM [s]abcd/ff \  
TO [t]ghijjj/ll 2 LN MSG:  
<reason> DNY

## **Hierarchical**

---

[O.19301.01]

M hh:mm:ss xy,ww n[vv] SCNT RATE rr FROM uvmnpddd/ff \  
TO wxkqrjjj/ll 2 LN MSG:  
<reason> DNY

## **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

---

**RATE** - Rate

rr Circuit rate specification (24, 48, 96, or 56)

rr Rate

24 2.4 kilobit/second (kb/s)

48 4.8 kb/s

96 9.6 kb/s

56 56 kb/s

**TPT** - Two-Point

Retained only for DACS/SRDC compatibility.

**FROM** - From

**TO** - To

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number

**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |

| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |

| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |

| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM channel number  
**jjj** - TO channel number

001-024 (Domestic)

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - FROM customer number  
**ll** - TO customer number

|       |                                     |
|-------|-------------------------------------|
| 01    | (DS0A at 2.4, 4.8, 9.6, or 56 kb/s) |
| 01-20 | (DS0B at 2.4 kb/s)                  |
| 01-10 | (DS0B at 4.8 kb/s)                  |
| 01-05 | (DS0B at 9.6 kb/s)                  |



If [s]abctddd or [t]ghijj is an error corrected channel, termination is performed after error correction is done. Also, this command does not allow the FROM and TO customers to be the same (that is, a looped connection), nor does it allow the use of a semi-colon in place of a comma after the TPT keyword. Both directions of the circuit are terminated with insertion of the Unassigned Multiplexer Channel (UMC) control code.

**reason** - Reason for denial

Input Errors

*reason*

CHANNEL [s]abctddd IS A PARITY CHANNEL  
 CUSTOMER NUMBER MUST BE SPECIFIED FOR DS0B CHANNEL [s]abctddd  
 CHANNEL [s]abctddd WITH SR ERROR CORRECTION AND RATE 56 NOT ALLOWED  
 CHANNEL [s]abctddd SR MULTIPLEXER RATE CANNOT SUPPORT CIRCUIT RATE  
 CUSTOMER NUMBER RANGE NOT ALLOWED FOR DS0A CHANNEL [s]abctddd  
 CHANNEL RANGE NOT ALLOWED FOR DS0B CHANNEL [s]abctddd  
 FROM AND TO RANGES ARE NOT THE SAME SIZE  
 FROM AND TO RANGES PARTIALLY OVERLAP  
 INVALID CHANNEL NUMBER FOR CHANNEL [s]abctddd  
 CHANNEL [s]abctddd/ff IS SPECIFIED MORE THAN ONCE  
 CHANNEL [s]abctddd/ff IS CONNECTED BUT NOT AS A MULTIPOINT MASTER LEG  
 SPECIFIED RATE DOES NOT MATCH EXISTING CIRCUIT RATE  
 MJU 1 MUST BE SPECIFIED AS THE MULTIPOINT MASTER LEG MJU  
 CIRCUIT RATE MUST BE SPECIFIED  
 MA FIELD MUST BE SPECIFIED FOR A NEW MJU  
 MA FIELD MUST MATCH CIRCUIT  
 UPSTREAM BRANCH SPECIFIED IN MA FIELD IS ASSIGNED  
 UPSTREAM BRANCH SPECIFIED IN MA FIELD DOES NOT EXIST  
 BR i IS SPECIFIED MORE THAN ONCE  
 MA FIELD NOT ALLOWED WHEN MJU 1 IS SPECIFIED  
 MJU NAMES IN MJU AND MA FIELDS CANNOT BE THE SAME  
 SCNT CANNOT BE SPECIFIED FOR A LOOPED CIRCUIT  
 CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0A CHANNEL [s]abctddd  
 CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0B CHANNEL [s]abctddd  
 CHANNEL [s]abctddd IS OUT OF RANGE  
 [s]abctddd-ff IS AN INVALID RANGE OF CHANNELS  
 CHANNEL [s]abctddd/ff IS ASSIGNED  
 BR i IS ALREADY ASSIGNED TO ANOTHER CHANNEL OR MJU  
 MJU ssss ALREADY EXISTS IN THE CIRCUIT  
 CHANNEL [s]abctddd IS NOT ESTABLISHED TO SR FEATURE  
 CHANNEL [s]abctddd/ff IS UNDER TEST  
 NPC [s]abc IS NOT PROVISIONED AS DIGROUP-A OF AN RT  
 THE NPC ASSOCIATED WITH VIRTUAL CHANNEL [s]abctddd IS NOT PROVISIONED  
 NPC [s]abc IS IN LINE LOOPBACK STATE  
 CIRCUIT IS UNDER TEST

Maintenance Conditions

*reason*

UNIT [q]q IS NOT FACILITY TERMINATING TYPE  
NO DSPU IS EQUIPPED  
NO SRM TYPE NPC IS EQUIPPED  
NO MJU TYPE NPC IS EQUIPPED  
TSI sft IS NOT EQUIPPED  
CCB sf IS NOT EQUIPPED  
ETSI sqq IS NOT EQUIPPED  
UNIT [q]q IS NOT EQUIPPED  
UNIT [q]q FTMI d IS NOT EQUIPPED  
UNIT [q]q FC s IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED  
UNIT [q]q MXR c NOT EQUIPPED  
CONNECTION EXCEEDS REMAINING EC CAPACITY  
BOTH CCN SIDES ARE OUT-OF-SERVICE  
INACTIVE CCN SIDE IN-SERVICE AND NPC ON INACTIVE SIDE IS OOS  
ACTIVE CCN SIDE IS OUT-OF-SERVICE  
CCNI s IS OUT-OF-SERVICE  
TSI sft IS OUT-OF-SERVICE  
CCB sf IS OUT-OF-SERVICE  
CCI s IS OUT-OF-SERVICE  
ETSI sqq IS OUT-OF-SERVICE  
UNIT [q]q IS OUT-OF-SERVICE  
UNIT [q]q FTMI d IS OUT-OF-SERVICE  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
NPC [s]abc IS OUT-OF-SERVICE  
NPC [s]abc SIDE s IS OUT-OF-SERVICE  
UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE  
ACTIVE CCN SIDE IS PESTED  
MAINTENANCE CONDITION PREVENTS COMPLETION OF THIS COMMAND  
ACTIVE CCN SIDE IS FAILED  
CCNI s IS FAILED  
TSI sft IS FAILED  
CCB sf IS FAILED  
CCI s IS FAILED  
ETSI sqq IS FAILED  
UNIT [q]q IS FAILED  
UNIT [q]q FTMI d IS FAILED  
UNIT [q]q FC sb IS FAILED  
DSPI IN UNIT [q]q IS FAILED  
NPC [s]abc IS FAILED

NPC [s]abc SIDE s IS FAILED  
UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED

| st   | d       | Explanation                   |
|------|---------|-------------------------------|
| ROLL | {F T B} | Circuit is involved in a roll |

## **SCNT,RATE,TPT,FROM,TO**

### **SUBRATE TERMINATED CROSS-CONNECTION**

#### **Explanation Of Command**

This command performs a terminated cross-connection of the **FROM** and **TO** customers in both directions.

#### **Command**

##### **Nonhierarchical**

USAGE: The following applies to a range of DS-0A channels:

[l.19311]

```
SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM [s]abcd-dd-eee[/01],\  
TO [t]ghijjj-kkk[/01]!
```

USAGE: The following applies to a range of DS-0B channels:

[l.19311]

```
SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM [s]abcd-dd/ff-mm,\  
TO [t]ghijjj/ll-nn!
```

##### **Hierarchical**

USAGE: The following applies to a range of DS-0A channels:

[l.19311]

```
SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM uvmp-ddd-eee[/01],\  
TO wxkqrjjj-kkk[/01]!
```

USAGE: The following applies to a range of DS-0B channels:

[I.19311]

**SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM uvmnpddd/ff-mm,\  
TO wxkqrjjj/ll-nn!**

### **Completion Message**

---

#### **Nonhierarchical**

---

USAGE: The following applies to a range of DS-0A channels:

[O.19311]

**M hh:mm:ss xy,ww n[vv] SCNT RATE rr [s]abcd-dd-eee[/01] \  
[t]ghijjj-kkk[/01] COMPL**

USAGE: The following applies to a range of DS-0B channels:

[O.19311]

**M hh:mm:ss xy,ww n[vv] SCNT RATE rr [s]abcd-dd/ff-mm \  
[t]ghijjj/ll-nn COMPL**

#### **Hierarchical**

---

USAGE: The following applies to a range of DS-0A channels:

[O.19311]

**M hh:mm:ss xy,ww n[vv] SCNT RATE rr uvmnpddd-eee[/01] \  
wxkqrjjj-kkk[/01] COMPL**

USAGE: The following applies to a range of DS-0B channels:

[O.19311]

**M hh:mm:ss xy,ww n[vv] SCNT RATE rr uvmnpddd/ff-mm \  
wxkqrjjj/ll-nn COMPL**

## **Denial Message**

---

### **Nonhierarchical**

---

USAGE: The following applies to a range of DS-0A channels:

[O.19311.01]

```
M hh:mm:ss xy,ww n[vv] SCNT RATE rr FROM [s]abcddd-eee[/01] \
3 LN MSG:
TO [t]ghijjj-kkk[/01] ppp/pp,qqq/qq
<reason> DNY
```

USAGE: The following applies to a range of DS-0B channels:

[O.19311.01]

```
M hh:mm:ss xy,ww n[vv] SCNT RATE rr FROM [s]abcddd/ff-mm \
3 LN MSG:
TO [t]ghijjj/ll-nn ppp/pp,qqq/qq
<reason> DNY
```

### **Hierarchical**

---

USAGE: The following applies to a range of DS-0A channels:

[O.19311.01]

```
M hh:mm:ss xy,ww n[vv] SCNT RATE rr FROM uvmnpddd-eee[/01] \
3 LN MSG:
TO wxqrrjjj-kkk[/01] ppp/pp,qqq/qq
<reason> DNY
```

USAGE: The following applies to a range of DS-0B channels:

[O.19311.01]

```
M hh:mm:ss xy,ww n[vv] SCNT RATE rr FROM uvmnpddd/ff-mm \
3 LN MSG:
TO wxqrrjjj/ff-nn ppp/pp,qqq/qq
<reason> DNY
```

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**rr** - Circuit rate (24, 48, 96 or 56)

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number

**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**uv,wx** - Unit number

**m,k** - Module number

**np,qr** - NPC number within the module



DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM channel number  
**eee** - FROM channel number for end of range specified  
**jjj** - TO channel number  
**kkk** - TO channel number for end of range specified

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - FROM customer number  
**mm** - FROM customer number for end of range specified  
**ll** - TO customer number  
**nn** - TO customer number for end of range specified

Customer Number:

|       |                                     |
|-------|-------------------------------------|
| 01    | (DS0A at 2.4, 4.8, 9.6, or 56 kb/s) |
| 01-20 | (DS0B at 2.4 kb/s)                  |
| 01-10 | (DS0B at 4.8 kb/s)                  |
| 01-05 | (DS0B at 9.6 kb/s)                  |

If a digroup and channel in the range is error corrected, termination takes place after error correction is performed. This command does not allow the FROM and TO customers to be the same (that is, a looped connection).

**ppp/pp** - FROM channel number/FROM customer number

ppp FROM channel number  
pp FROM customer number

**qqq/qq** - TO channel number/TO customer number

qqq TO channel number  
qq TO customer number

**reason** - *Reason for denial*  
*reason*

CHANNEL [s]abcddd IS A PARITY CHANNEL  
CUSTOMER NUMBER MUST BE SPECIFIED FOR DS0B  
CHANNEL [s]abcddd  
CHANNEL [s]abcddd WITH SR ERROR CORRECTION AND RATE 56  
NOT ALLOWED  
CHANNEL [s]abcddd SR MULTIPLEXER RATE CANNOT SUPPORT  
CIRCUIT RATE  
CUSTOMER NUMBER RANGE NOT ALLOWED FOR DS0A  
CHANNEL [s]abcddd  
CHANNEL RANGE NOT ALLOWED FOR DS0B CHANNEL [s]abcddd  
INVALID CHANNEL NUMBER FOR CHANNEL [X]XXXXYY  
SCNT CANNOT BE SPECIFIED FOR A LOOPED CIRCUIT  
FROM AND TO RANGES ARE NOT THE SAME SIZE  
FROM AND TO RANGES PARTIALLY OVERLAP

CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0A  
CHANNEL [s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0B  
CHANNEL [s]abcddd  
CHANNEL [s]abcddd IS OUT OF RANGE  
[X]XXXXYY-FFF IS AN INVALID RANGE OF CHANNELS

CHANNEL [s]abcddd/ff IS ASSIGNED

CHANNEL [s]abcddd IS NOT ESTABLISHED TO SR FEATURE  
CHANNEL [s]abcddd/ff IS UNDER TEST  
NPC [X]XXX IS NOT PROVISIONED AS DIGROUP-A OF AN RT  
THE NPC ASSOCIATED WITH VIRTUAL CHANNEL [X]XXXYYY IS NOT  
PROVISIONED  
NPC [X]XXX IS IN LINE LOOPBACK STATE

UNIT [q]q IS NOT FACILITY TERMINATING TYPE

NO DSPU IS EQUIPPED  
NO SRM TYPE NPC IS EQUIPPED  
NO MJU TYPE NPC IS EQUIPPED  
TSI sft IS NOT EQUIPPED  
CCB sf IS NOT EQUIPPED  
ETSI sqq IS NOT EQUIPPED  
UNIT [q]q IS NOT EQUIPPED  
UNIT [q]q FTMI d IS NOT EQUIPPED  
UNIT [q]q FC sb IS NOT EQUIPPED  
DSPI IN UNIT [q]q IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED  
UNIT [q]q MXR c NOT EQUIPPED

CONNECTION EXCEEDS REMAINING EC CAPACITY

BOTH CCN SIDES ARE OUT-OF-SERVICE  
INACTIVE CCN SIDE IN-SERVICE AND NPC ON INACTIVE SIDE  
IS OOS  
ACTIVE CCN SIDE IS OUT-OF-SERVICE  
CCNI s IS OUT-OF-SERVICE  
TSI sft IS OUT-OF-SERVICE  
CCB sf IS OUT-OF-SERVICE  
CCI s IS OUT-OF-SERVICE  
ETSI sqq IS OUT-OF-SERVICE  
UNIT [q]q IS OUT-OF-SERVICE  
UNIT [q]q FTMI d IS OUT-OF-SERVICE  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
NPC [s]abc IS OUT-OF-SERVICE  
NPC [s]abc SIDE s IS OUT-OF-SERVICE  
UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE  
MAINTENANCE CONDITION PREVENTS COMPLETION OF  
THIS COMMAND

ACTIVE CCN SIDE IS FAILED  
CCNI s IS FAILED  
TSI sft IS FAILED  
CCB sf IS FAILED  
CCI s IS FAILED  
ETSI sqq IS FAILED  
UNIT [q]q IS FAILED  
UNIT [q]q FTMI d IS FAILED  
UNIT [q]q FC sb IS FAILED  
DSPI IN UNIT [q]q IS FAILED  
NPC [s]abc IS FAILED  
NPC [s]abc SIDE s IS FAILED  
UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED

ACTIVE CCN SIDE IS PESTED

## **SCON,RATE,MPTM,MJU,MA**

### **SUBRATE CROSS-CONNECTION**

#### **Explanation Of Command**

This command performs a subrate multipoint cross-connection of the specified MJU. The master leg of the multipoint circuit is specified by digroup and channel and customer number, and serves as the reference for addressing all multipoint junction units and branches in the circuit.

All channels ddd and jjj must be established before they can be cross-connected by this command.

Multipoint circuits are built incrementally, one command at a time. Many commands can address the same multipoint circuit. Indeed, many commands can address the same MJU of a circuit. A command addressing an MJU, say MJU 0005, might connect customers to branches 1 and 2. Another command might also address MJU 0005 and connect a customer to branch 3. This command results in no service interruption to branches 1 and 2 that are already connected.

#### **Command**

#### **Nonhierarchical**

[I.19221]

```
SCON:FRM xy,SEQ ww:[RATE rr,]MPTM [s]abcddd[/ff],MJU ssss\  
[,MA(tttt,u)]  
[,<branch>][,<branch>][,<branch>][,<branch>]!
```

### **Hierarchical**

---

[I.19221]

SCON:FRM xy,SEQ ww:[RATE rr,]MPTM uvmnpddd[/ff],MJU ssss\  
[ ,MA(tttt,u)][,<branch>][,<branch>][,<branch>][,<branch>]!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.19221]

M hh:mm:ss xy,ww n[vv] SCON RATE rr MPTM [s]abcdddd/ff \  
MJU ssss e LN MSG:  
[MA tttt,u ][<branch> ][<branch> ][<branch> ][<branch>]  
NEW MJU ssss MA {tttt,u|MPTM} s BR1 <data> s BR2 <data> s  
BR3 <data> s BR4 <data> s \  
COMPL

### **Hierarchical**

---

[O.19221]

M hh:mm:ss xy,ww n[vv] SCON RATE rr MPTM uvmnpddd/ff \  
MJU ssss e LN MSG:  
[MA tttt,u ][<branch> ][<branch> ][<branch> ][<branch>]\  
NEW MJU ssss MA {tttt,u|MPTM} s BR1 <data> s BR2 <data> s

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.19221.01]

M hh:mm:ss xy,ww n[vv] SCON[ RATE rr] MPTM [s]abcdddd/ff \  
MJU ssss e LN MSG:  
[MA tttt,u ][<branch> ][<branch> ][<branch> ][<branch> ]\  
<reason> DNY

## Hierarchical

[O.19221.01]

M hh:mm:ss xy,ww n[vv] SCON[ RATE rr] MPTM uvmnpddd/ff \  
MJU ssss e LN MSG:  
[MA tttt,u ] [<branch> ] [<branch> ] [<branch> ] \  
<reason> DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**RATE** - Rate

**rr** - Transmission rate (24, 48, 96, or 56)

*rr*      *rate in kb/s*

|    |     |
|----|-----|
| 24 | 2.4 |
| 48 | 4.8 |
| 96 | 9.6 |
| 56 | 56  |

rr determines the transmission rate of the customers' cross-connection, and thus, the rate at which the MJU operates. All MJUs in the same circuit must operate at the same rate. The "RATE rr" field must be specified in the first command addressing MJU 0001. "RATE rr" need not be re-specified after it has once been set for MJU 0001. Hence, it is shown as optional. If "RATE rr" is omitted from subsequent commands, any additional MJUs connected will operate at the rate specified for MJU 0001. If "RATE rr" appears in subsequent commands, it will be checked against the rate specified for MJU 0001. If the rates are not the same, the command will be denied.

In addition to assuring that all MJUs in a circuit operate at the same rate, there is an additional check performed on the rate. In circuits that connect customers in DS0B channels, the rate of the MJUs cannot exceed the maximum customer rate of the subrate multiplexers associated with those DS0B channels. The allowed customer numbers used in either the master leg or branch connections depend on the rate of the circuit and the type of DS0B channel associated with each termination, as shown below:

For DS0A channels, rr is checked against the type of error correction previously specified in the SECH command for that channel. Similarly, if the channel has subrate error correction, a circuit rate of 56 is not allowed.

| Circuit<br>Rate | DS0B Type                                      |                                                |                                               |
|-----------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------|
|                 | 20-channel<br>(max. customer<br>rate 2.4 kb/s) | 10-channel<br>(max. customer<br>rate 4.8 kb/s) | 5-channel<br>(max. customer<br>rate 9.6 kb/s) |
| RATE 24         | Cust. #s<br>1-20 Allowed                       | Cust. #s<br>1-10 Allowed                       | Cust. #s<br>1-5 Allowed                       |
| RATE 48         | Denied                                         | Cust. #s<br>1-10 Allowed                       | Cust. #s<br>1-5 Allowed                       |
| RATE 96         | Denied                                         | Denied                                         | Cust. #s<br>1-5 Allowed                       |
| RATE 56         | Denied                                         | Denied                                         | Denied                                        |

**MPTM** - Multipoint master

**[s]abcd**[/ff]

- Termination number

There is exactly one multipoint master for a multipoint circuit. The multipoint master termination number is connected to the control leg of MJU 1. MJU 1 must be the first MJU connected in any circuit. This field uniquely identifies the circuit.

The data sent by this multipoint master is broadcast to all branches on the circuit. The data sent to the multipoint master is a summation of data sent by the branches.

Because the multipoint master is used to uniquely identify the circuit as a whole, it is required for all SCON commands, regardless of which MJU the command addresses (MJU ssss in the message format).

The first time a particular termination number is named in a command as a multipoint master, "MJU ssss" must be specified as "MJU 0001". The system will connect the termination to the control leg of MJU 0001. Subsequently, the multipoint master is included in commands addressing an MJU only to identify the circuit to which the MJU belongs.

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number of the multipoint circuit master leg



If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |
| <b>16A-16H</b>               | <b>32A-32H</b>               | <b>48A-48H</b>               | <b>64A-64H</b>               | <b>80A-80H</b>               | <b>96A-96H</b>               |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number of the multipoint circuit master leg

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**MJU** - Multipoint junction unit

**ssss** - MJU number addressed by this command (0001 through 9999)

If the MJU being addressed by the SCON command is 0001 (MJU ssss is MJU 0001) then the field "MA(tttt,u)" must not appear in the command (see the explanation of MA(tttt,u) below).

As previously discussed, it must always be connected to the multipoint master termination. The first time an MJU other than 0001 appears in a command, the command must also contain the MJU connection field.

No MJU can be created with an unconnected control leg.

**MA** - Master

**tttt** - MJU number (1 through 9999)

**u** - Branch number (1 through 4)

The master is also known as the control leg. Every MJU has a control leg. The control leg of MJU 0001 must be connected to the multipoint master. The control leg of an MJU other than 0001 must be connected to a branch of another MJU to form an MJU-to-MJU connection. The field MA(tttt,u) specifies the MJU-to-MJU connection. The control leg of MJU ssss is connected to branch u of MJU tttt.

The first command addressing an MJU in the circuit must address MJU 1. Otherwise, a new MJU of any number can be connected to any existing MJU in the circuit, assuming the new MJU's number is not already used in the circuit and the old MJU has an unconnected branch available to connect to.

The MJU connection field "MA(tttt,u)" specifies where to connect the control leg of MJU ssss. If MJU ssss is addressed in a subsequent SCON command, after a connection for its control leg has been specified, the MJU connection field need not be re-specified. Hence, "MA(tttt,u)" appears as an optional field in the message format. If it is respecified, it will be checked against the actual MJU-to-MJU connection.

It should also be noted that tttt cannot equal ssss. Also, branch u of MJU tttt must not have been previously connected. If it were, it could not be connected to the control leg of MJU ssss.

**branch** - Branch and termination number

*branch termination number*

BRi [t]ghijj[l]

The termination is connected to branch i of MJU ssss.

One branch field is listed for each branch specified in the input command. Since some multipoint SCON input commands do not list any branch data, this line may be absent.

The branch and termination number can appear from zero to four times in a subrate cross-connect command, connecting up to four different customers to the four branches of MJU ssss. The branch fields for the four branches of MJU ssss can appear in any order and any or all branch fields can be omitted. Nothing is connected to branch fields that are omitted from (do not appear in) the command.

Branch fields might be omitted for several reasons. If branches 1 and 2 of MJU ssss were already connected, and the user wished to connect a customer to branch 3 of MJU ssss, then only BR3 and its associated termination number would appear in the command.

Branches 1 and 2 would not appear because they are already connected and branch 4 would not appear because nothing is to be connected to it. Branch 4 might be saved to provide an MJU-to-MJU connection at a later time.

**[t]ghi** - The 3- or 4-digit nonhierarchical NPC number of termination connected to BRi with the same valid values as the master leg.

**jjj** - Channel number of termination connected to BRi with the same valid values as the master leg.

**ll** - Customer number of termination connected to BRi with the same valid values as the master leg.

If the customer is a DS0A customer, ll is optional and if present, must be 01.

**ff** - Customer number of the multipoint circuit master leg (1 through 20)

The customer number is optional when the customer to be connected is in a DS0A signal. This is because there is only one customer in a DS0A signal. If specified, it must appear as 01.

**BR** - Branch

**i** - Branch number (1 through 4)

BRi refers to branch i of MJU ssss, the MJU addressed by this command.

#### Red Circuit and Customer Control Marking

SRDC cross-connections are marked automatically as red circuits. This results in the need to specify the INCL keyword in the RMV,NPC command whenever a facility terminating NPC carrying SRDC circuits is removed. Also, the SCON verb does not affect the customer control marking of a channel. The CUS marking is disabled while the channel is established to the Subrate feature, but is returned once the channel is disestablished.

#### Secondary Channel Capability

This command supports secondary channel capability. Circuits that use DDS secondary channel capability can be assigned to any DS0B channel, provided that the channel's facility terminating NPC was provisioned without zero suppression. If the facility terminating NPC has zero suppression, the user must ensure that secondary channel services are only assigned to the following customers of the given DS0B type:

| DS0B nn | Customer Numbers Compatible with Secondary Channel |
|---------|----------------------------------------------------|
| DS0B 20 | 2,3,6,8,11,12,13,18                                |
| DS0B 10 | 2,3,6,8                                            |
| DS0B 5  | 2,3                                                |

**ddd** - Channel number of the multipoint circuit master leg

001 through 024

001-047 Odd only (SLC 96® Carrier, Mode 3, DGA)  
 049-095 Odd only (SLC 96 Carrier, Mode 3, DGC)  
 001-024 Odd and Even (SLC 96 Carrier, Mode 1, DGA)  
 025-048 Odd and Even (SLC 96 Carrier, Mode 1, DGB)  
 049-072 Odd and Even (SLC 96 Carrier, Mode 1, DGC)  
 073-096 Odd and Even (SLC 96 Carrier, Mode 1, DGD)  
 001-024 Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA)  
 025-048 Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB)  
 049-072 Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC)  
 073-096 Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD)

01 (DS0A at 2.4, 4.8, 9.6, or 56 kb/s)  
01-20 (DS0B at 2.4 kb/s)  
01-10 (DS0B at 4.8 kb/s)  
01-05 (DS0B at 9.6 kb/s)

**wxkqr** - Hierarchical NPC number of termination connected to BRi with the same valid values as the master leg.

**data** - Data

The data fields refer to the connection data associated with the four branch legs of MJU ssss. Each branch data field can take one of three forms, depending on whether the branch is unassigned, cross-connected to an external facility termination, or cross-connected to a cascaded MJU control leg.

| <i>data</i> | <i>Explanation</i>                                                         |
|-------------|----------------------------------------------------------------------------|
| 000000/00   | For unassigned branches                                                    |
| ghijjj/ll   | For branches connected to external facility terminations                   |
| MJU nnnn    | For branches connected to another MJU with number nnnn (0002 through 9999) |

**s** - Termination state of the MJU control or branch leg

Variable s contained in the MA and branch data indicates the terminate and leave status of each MJU connection. Branches or MJUs connected by the SCON command are automatically assigned the terminate and leave released status. The "TO" direction is defined as the direction facing the MJU.

| <i>s</i> | <i>Explanation</i>                   |
|----------|--------------------------------------|
| R        | RELEASED. Neither side is terminated |
| F        | FROM side is terminated              |
| T        | TO side is terminated                |
| B        | BOTH sides are terminated            |

**reason** - Reason for denial

Reason

CHANNEL [s]abcddd IS A PARITY CHANNEL  
CUSTOMER NUMBER MUST BE SPECIFIED FOR DS0B CHANNEL [s]abcddd  
CHANNEL [s]abcddd WITH SR ERROR CORRECTION AND RATE 56  
NOT ALLOWED  
CHANNEL [s]abcddd SR MULTIPLEXER RATE CANNOT SUPPORT  
CIRCUIT RATE  
CUSTOMER NUMBER RANGE NOT ALLOWED FOR DS0A CHANNEL [s]abcddd  
CHANNEL RANGE NOT ALLOWED FOR DS-OB CHANNEL [s]abcddd  
FROM AND TO RANGES ARE NOT THE SAME SIZE  
FROM AND TO RANGES PARTIALLY OVERLAP  
INVALID CHANNEL NUMBER FOR CHANNEL [s]abcddd  
SPECIFIED RATE DOES NOT MATCH EXISTING CIRCUIT RATE  
MJU 1 MUST BE SPECIFIED AS THE MULTIPOINT MASTER LEG MJU  
CIRCUIT RATE MUST BE SPECIFIED  
CHANNEL [s]abcddd/ff IS CONNECTED BUT NOT AS A  
MULTIPOINT MASTER LEG  
MA FIELD MUST BE SPECIFIED FOR A NEW MJU  
MA FIELD MUST MATCH CIRCUIT  
UPSTREAM BRANCH SPECIFIED IN MA FIELD IS ASSIGNED  
UPSTREAM BRANCH SPECIFIED IN MA FIELD DOES NOT EXIST  
CHANNEL [s]abcddd/ff IS SPECIFIED MORE THAN ONCE  
BR i IS SPECIFIED MORE THAN ONCE  
MA FIELD NOT ALLOWED WHEN MJU 1 IS SPECIFIED  
MJU NAMES IN MJU AND MA FIELDS CANNOT BE THE SAME  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0A CHANNEL [s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0B CHANNEL [s]abcddd  
CHANNEL [s]abcddd IS OUT OF RANGE  
CHANNEL [s]abcddd/ff IS ASSIGNED  
BR i IS ALREADY ASSIGNED TO ANOTHER CHANNEL OR MJU  
MJU ssss ALREADY EXISTS IN THE CIRCUIT  
CHANNEL [s]abcddd IS NOT ESTABLISHED TO SR FEATURE  
CHANNEL [s]abcddd/ff IS UNDER TEST  
NPC [s]abc IS NOT PROVISIONED AS DIGROUP-A OF AN RT  
DIGROUP-B ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS  
NOT PROVISIONED  
DIGROUP-C ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS  
NOT PROVISIONED  
DIGROUP-D ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS  
NOT PROVISIONED  
NPC [s]abc IS IN LINE LOOPBACK STATE  
CIRCUIT IS UNDER TEST  
UNIT [q]q IS NOT FACILITY TERMINATING TYPE  
NO DSPU IS EQUIPPED  
NO SRM TYPE NPC IS EQUIPPED  
NO MJU TYPE NPC IS EQUIPPED  
CCNI s IS NOT EQUIPPED  
TSI sft IS NOT EQUIPPED  
CCB sf IS NOT EQUIPPED  
CCI s IS NOT EQUIPPED

ETSI sqq IS NOT EQUIPPED  
UNIT [q]q IS NOT EQUIPPED  
UNIT [q]q FTMI d IS NOT EQUIPPED  
UNIT [q]q FC sb IS NOT EQUIPPED  
DSPI IN UNIT [q]q IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED  
NPC [s]abc SIDE s IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED  
UNIT [q]q MXR c NOT EQUIPPED  
CONNECTION EXCEEDS REMAINING MJU CAPACITY  
BOTH CCN SIDES ARE OUT-OF-SERVICE  
ACTIVE CCN SIDE IS OUT-OF-SERVICE  
ACTIVE CCN SIDE IS PESTED  
INACTIVE CCN SIDE IN-SERVICE AND NPC [s]abc ON INACTIVE  
SIDE IS OOS  
CCNI s IS OUT-OF-SERVICE  
TSI sft IS OUT-OF-SERVICE  
CCB sf IS OUT-OF-SERVICE  
CCI s IS OUT-OF-SERVICE  
ETSI sqq IS OUT-OF-SERVICE  
UNIT [q]q IS OUT-OF-SERVICE  
UNIT [q]q FTMI d IS OUT-OF-SERVICE  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
NPC [s]abc IS OUT-OF-SERVICE  
NPC [s]abc SIDE s IS OUT-OF-SERVICE  
UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED  
MAINTENANCE CONDITION PREVENTS COMPLETION OF THIS COMMAND  
ACTIVE CCN SIDE IS FAILED  
CCNI s IS FAILED  
TSI sft IS FAILED  
CCB sb IS FAILED  
CCI s IS FAILED  
ETSI sqq IS FAILED  
UNIT [q]q IS FAILED  
UNIT [q]q FTMI d IS FAILED  
UNIT [q]q FC sb IS FAILED  
DSPI IN UNIT [q]q IS FAILED  
NPC [s]abc IS FAILED  
NPC [s]abc SIDE s IS FAILED  
UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
NIT [q]q MIU c IS FAILED



## **SCON,RATE,TPT,FROM,TO**

### **SUBRATE CROSS-CONNECTION**

#### **Explanation Of Command**

This command cross-connects the FROM and TO customers defined by the **ff** and **ll** fields. The customer number fields are optional for DS0A terminations; if not specified, the default value is 01.

#### **Command**

##### **Nonhierarchical**

[I.19201]

```
SCON:FRM xy,SEQ ww:RATE rr[,TPT],FROM [s]abcddd[/ff],\  
TO [t]ghijjj[/ll]!
```

##### **Hierarchical**

[I.19201]

```
SCON:FRM xy,SEQ ww:RATE rr[,TPT],FROM uvmnpddd[/ff],\  
TO wxkqrjjj[/ll]!
```

#### **Completion Message**

##### **Nonhierarchical**

[O.19201]

```
M hh:mm:ss xy,ww n[vv] SCON RATE rr,TPT;[s]abcddd/ff,\  
[t]ghijjj/ll COMPL
```

### **Hierarchical**

---

[O.19201]

M hh:mm:ss xy,ww n[vv] SCON RATE rr,TPT;uvmnpddd/ff,\  
wxkqrjjj/ll COMPL

### **Denial Message**

---

### **Nonhierarchical**

---

[O.19201.01]

M hh:mm:ss xy,ww n[vv] SCON RATE rr,TPT;[s]abcdddd/ff,\  
[t]ghijjj/ll 2 LN MSG:  
<reason> DNY

### **Hierarchical**

---

[O.19201.01]

M hh:mm:ss xy,ww n[vv] SCON RATE rr,TPT;uvmnpddd/ff,\  
wxkqrjjj/ll 2 LN MSG:  
<reason> DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**TPT** - Two-Point (optional).

Retained only for DACS/SRDC compatibility. The command format above shows that RATE rr and the optional TPT are followed by a comma (.). To preserve DACS/SRDC compatibility, this comma may also be replaced with a semicolon (;).

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number  
**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |
| <b>16A-16H</b>               | <b>32A-32H</b>               | <b>48A-48H</b>               | <b>64A-64H</b>               | <b>80A-80H</b>               | <b>96A-96H</b>               |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**uv,wx** - Unit number

**m,k** - Module number

**np,qr** - NPC number within the module

Values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM channel number

**jjj** - TO channel number

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - FROM customer number

**ll** - TO customer number

|       |                                     |
|-------|-------------------------------------|
| 01    | (DS0A at 2.4, 4.8, 9.6, or 56 kb/s) |
| 01-20 | (DS0B at 2.4 kb/s)                  |
| 01-10 | (DS0B at 4.8 kb/s)                  |
| 01-05 | (DS0B at 9.6 kb/s)                  |

**RATE** - Rate

Rate at which the FROM and TO customers are cross-connected

**rr** - Circuit rate (24, 48, 96, or 56)

| <b>rr</b> | rate in kb/s |
|-----------|--------------|
|-----------|--------------|

|    |     |
|----|-----|
| 24 | 2.4 |
| 48 | 4.8 |
| 96 | 9.6 |
| 56 | 56  |

The channels abcd and ghijkl must be established using a subrate establish command before they can be cross-connected.

The RATE cannot exceed the maximum customer rate of the subrate multiplexers associated with those DS0B channels. The allowed customer numbers (ff and ll) depend on the rate of the circuit and the type of DS0B channel associated with each termination, as shown below:

| Circuit<br>Rate rr | DS0B Type                                      |                                                |                                               |
|--------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------|
|                    | 20-channel<br>(max. customer<br>rate 2.4 kb/s) | 10-channel<br>(max. customer<br>rate 4.8 kb/s) | 5-channel<br>(max. customer<br>rate 9.6 kb/s) |
| RATE 24            | Cust. #s<br>1-20 Allowed                       | Cust. #s<br>1-10 Allowed                       | Cust. #s<br>1-5 Allowed                       |
| RATE 48            | Denied                                         | Cust. #s<br>1-10 Allowed                       | Cust. #s<br>1-5 Allowed                       |
| RATE 96            | Denied                                         | Denied                                         | Cust. #s<br>1-5 Allowed                       |
| RATE 56            | Denied                                         | Denied                                         | Denied                                        |

The customer numbers ff and ll, are optional when the customer to be connected is in a DS0A signal. This is because there is only one customer in a DS0A signal. If specified, it must appear as 01. Also, for DS0A channels, the RATE is checked against the type of error correction previously specified in the command used to establish that channel. If the channel has subrate error correction, a circuit rate of 56 is not allowed.

The user must ensure that a circuit using the secondary channel capability is assigned only to a facility termination that is compatible with this capability. If the termination is a DS0A or if its associated facility NPC was grown without zero suppression, any assignment of the NEW termination is compatible with the secondary channel capability. If the termination is in a DS0B **and** its associated facility NPC was grown with zero suppression, the user can only assign secondary channel services to a termination with the following customer numbers within the given DS0B type:

| DS0B Type  | Allowed Customer Numbers       |
|------------|--------------------------------|
| 20-channel | 2, 3, 6, 8, 11, 12, 13, and 18 |
| 10-channel | 2, 3, 6, and 8                 |
| 5-channel  | 2 and 3                        |

The fields, FROM [s]abcd[ff] and TO [t]ghij[ll] specify the customers to cross-connect. FROM and TO have no significance to DACS II and either customer of the circuit may be designated FROM or TO. To loop a customer back to itself, specify the FROM and TO fields identically.

Subrate cross-connections are marked automatically as red circuits. This results in the need to specify the INCL keyword in the command to remove an NPC whenever a facility terminating NPC carrying SRDC circuits is removed.

Also, the SCON verb does not affect the customer control marking of a channel. The CUS marking is disabled while the channel is established to the Subrate feature, but is returned once the channel is disestablished. The **RATE rr** field indicates the customer rate of the circuit specified in the input command **ff** and **ll** define the customer numbers associated with the FROM and TO channel pair. These fields are optional in the input command for DS0A terminations. If the input command did not specify one or both of these numbers, the output value is 01.

**reason** - Reason for denial

reason

CHANNEL [s]abcddd IS A PARITY CHANNEL  
CUSTOMER NUMBER MUST BE SPECIFIED FOR DS0B CHANNEL [s]abcddd  
CHANNEL [s]abcddd SR MULTIPLEXER RATE CANNOT SUPPORT CIRCUIT  
RATE  
CHANNEL [s]abcddd WITH SR ERROR CORRECTION AND RATE 56 NOT  
ALLOWED  
INVALID CHANNEL NUMBER FOR CHANNEL [s]abcddd

CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0A CHANNEL [s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0B CHANNEL [s]abcddd  
CHANNEL [s]abcddd IS OUT OF RANGE

CHANNEL [s]abcddd/ff IS ASSIGNED

CHANNEL [s]abcddd IS NOT ESTABLISHED TO THE SR FEATURE  
CHANNEL [s]abcddd/ff IS UNDER TEST  
DIGROUP-B ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS NOT  
PROVISIONED  
DIGROUP-C ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS NOT  
PROVISIONED  
DIGROUP-D ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS NOT  
PROVISIONED  
NPC [s]abc IS NOT PROVISIONED AS DIGROUP-A OF AN RT  
NPC [s]abc IS IN LINE LOOPBACK STATE

NO DSPU IS EQUIPPED  
NPC [s]abc IS NOT EQUIPPED  
TSI sft IS NOT EQUIPPED  
CCB sf IS NOT EQUIPPED  
ETSI sqq IS NOT EQUIPPED

UNIT [q]q IS NOT FACILITY TERMINATING TYPE

CONNECTION EXCEEDS REMAINING EC CAPACITY

BOTH CCN SIDES ARE OUT-OF-SERVICE  
NO SRM TYPE NPC IS EQUIPPED  
NO MJU TYPE NPC IS EQUIPPED  
INACTIVE CCN SIDE IN-SERVICE AND NPC ON INACTIVE SIDE IS OOS  
ACTIVE CCN SIDE IS OUT-OF-SERVICE  
CCNI s IS OUT-OF-SERVICE  
TSI sft IS OUT-OF-SERVICE  
CCB sf IS OUT-OF-SERVICE  
CCI s IS OUT-OF-SERVICE  
ETSI sqq IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
NPC [s]abc IS OUT-OF-SERVICE  
NPC [s]abc SIDE s IS OUT-OF-SERVICE  
MAINTENANCE CONDITION PREVENTS COMPLETION OF THIS COMMAND  
UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE  
UNIT [q]q MXR c NOT EQUIPPED

UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED  
ACTIVE CCN SIDE IS FAILED  
CCNI s IS FAILED  
CCI s IS FAILED  
TSI sft IS FAILED  
CCB sf IS FAILED  
ETSI sqq IS FAILED  
DSPI IN UNIT [q]q IS FAILED  
NPC [s]abc IS FAILED  
NPC [s]abc SIDE s IS FAILED



ACTIVE CCN SIDE IS PESTED

| st   | d       | Explanation                   |
|------|---------|-------------------------------|
| ROLL | {F T B} | Circuit is involved in a roll |

## **SCON,RATE,TPT,FROM,TO**

### **SUBRATE CROSS-CONNECTION**

#### **Explanation Of Command**

This command cross-connects the FROM and TO customers in both directions. This command also extends the format of I.19201 to support ranges of two-point, two-way cross-connections.

#### **Command**

##### **Nonhierarchical**

[I.19211]

For a DS0A Channel

```
SCON:FRM xy,SEQ ww:RATE rr,[TPT,]FROM [s]abcd-dd-eee[/01],\  
TO [t]ghijjj-kkk[/01]!
```

For a DS0B Channel

```
SCON:FRM xy,SEQ ww:RATE rr,[TPT,]FROM [s]abcd-dd/ff-mm,\  
TO [t]ghijjj/ll-nn!
```

## **Hierarchical**

---

[I.19211]

For a DS0A Channel

**SCON:FRM xy,SEQ ww:RATE rr,[TPT,]FROM uvmnpddd-eee[/01],\  
TO wxkqrjjj-kkk[/01]!**

For a DS0B Channel

**SCON:FRM xy,SEQ ww:RATE rr,[TPT,]FROM uvmnpddd/ff-mm,\  
TO wxkqrjjj/ll-nn!**

## **Completion Message**

---

### **Nonhierarchical**

---

USAGE: For range connections of DS0A channels

[O.19211]

**M hh:mm:ss xy,ww n[vv] SCON RATE rr [s]abcd-dd-eee/01 \  
[t]ghijjj-kkk/01 COMPL**

USAGE: For range connections of subrate customer numbers

[O.19211]

**M hh:mm:ss xy,ww n[vv] SCON RATE rr [s]abcd-dd-eee/ff-mm \  
[t]ghijjj-kkk/ll-nn COMPL**

### **Hierarchical**

---

USAGE: For range connections of DS0A channels

[O.19211]

**M hh:mm:ss xy,ww n[vv] SCON RATE rr uvmnpddd-eee/01 \  
wxkqrjjj-kkk/01 COMPL**

USAGE: For range connections of subrate customer numbers

[O.19211]

**M hh:mm:ss xy,ww n[vv] SCON RATE rr uvmnpddd-eee/ff-mm \  
wxkqrjjj-kkk/ll-nn COMPL**

## **Denial Message**

---

### **Nonhierarchical**

---

USAGE: For range connections of DS0A channels

[O.19211.01]

```
M hh:mm:ss xy,ww n[vv] SCON RATE rr FROM [s]abcd-dd-eee/01 \
3 LN MSG:
TO [t]ghijjj-kkk/01 ppp/pp,qqq/qq
<reason> DNY
```

USAGE: For range connections of subrate customer numbers

[O.19211.01]

```
M hh:mm:ss xy,ww n[vv] SCON RATE rr FROM [s]abcd-dd-eee/ff-mm \
3 LN MSG:
TO [t]ghijjj-kkk/ll-nn ppp/pp,qqq/qq
<reason> DNY
```

### **Hierarchical**

---

USAGE: For range connections of DS0A channels

[O.19211.01]

```
M hh:mm:ss xy,ww n[vv] SCON RATE rr FROM uvmnpddd-eee/01 \
3 LN MSG:
TO wxkqrjjj-kkk/01 ppp/pp,qqq/qq
<reason> DNY
```

USAGE: For range connections of subrate customer numbers

[O.19211.01]

```
M hh:mm:ss xy,ww n[vv] SCON RATE rr FROM uvmnpddd-eee/ff-mm \
3 LN MSG:
TO wxkqrjjj-kkk/ll-nn ppp/pp,qqq/qq
<reason> DNY
```

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number

[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

The values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM channel number  
**eee** - FROM channel number for end of range specified  
**jjj** - TO channel number  
**kkk** - TO channel number for end of range specified

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - FROM customer number  
**mm** - FROM customer number for end of range specified  
**ll** - TO customer number  
**nn** - TO customer number for end of range specified

|       |                                     |
|-------|-------------------------------------|
| 01    | (DS0A at 2.4, 4.8, 9.6, or 56 kb/s) |
| 01-20 | (DS0B at 2.4 kb/s)                  |
| 01-10 | (DS0B at 4.8 kb/s)                  |
| 01-05 | (DS0B at 9.6 kb/s)                  |

**RATE** - Circuit rate  
**rr** - Circuit rate value (24, 48, 96, or 56)

The FROM and TO fields specify the customers to cross-connect. The FROM and TO keywords have no significance to DACS II and either customer of the circuit may be designated FROM or TO. To loop a range of customers back to themselves, specify the FROM and TO fields identically.

There are two ways to specify ranges, as evidenced by the two formats that may follow the FROM and TO keywords:

- Range specified in channel field: [s]abcddd-eee[/01]

Ranges must be specified in the channel field when a range of DS0A customers is desired. However, a range is allowed in the channel field only if the channels are DS0A channels. The optional field must, if present, be 01. As an example, [0]001002-010/01 specifies a range of nine DS0A customers on NPC [0]001. [0]001002-010 does the same thing without the optional customer number field.

- Range specified in customer number field: [s]abcddd/ff-mm

Ranges must be specified in the customer number field when a range of DS0B customers is desired. If NPC [0]020, channel 004 was established as a 10-customer DS0B channel, then [0]020004/01-09 specifies a range of nine customers on NPC [0]020 channel 004.

Specifying a range in both the channel and customer number field for the same customer specification, such as [0]001001-009/01-09, will be denied.

**RATE** - Circuit rate

**rr** - Circuit rate value (24, 48, 96, 56)

**ppp/pp** - FROM termination involved in the denial where:

**ppp** - FROM channel number

**pp** - FROM customer number

**qqq/qq** - TO termination involved in the denial where:

**qqq** - TO channel number

**qq** - TO customer number

**reason** - Reason for denial

Input Errors

*reason*

explanation of error condition code

CHANNEL [s]abcddd IS A PARITY CHANNEL

CUSTOMER NUMBER MUST BE SPECIFIED FOR DS0B

CHANNEL [s]abcddd

CHANNEL [s]abcddd WITH SR ERROR CORRECTION AND RATE 56



NOT ALLOWED  
CHANNEL [s]abcddd SR MULTIPLEXER RATE CANNOT SUPPORT  
CIRCUIT RATE  
CUSTOMER NUMBER RANGE NOT ALLOWED FOR DS0A  
CHANNEL [s]abcddd  
CHANNEL RANGE NOT ALLOWED FOR DS-OB CHANNEL [s]abcddd  
FROM AND TO RANGES ARE NOT THE SAME SIZE  
FROM AND TO RANGES PARTIALLY OVERLAP  
INVALID CHANNEL NUMBER FOR CHANNEL [s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0A  
CHANNEL [s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0B  
CHANNEL [s]abcddd  
CHANNEL [s]abcddd IS OUT OF RANGE  
[s]abcddd-eee IS AN INVALID RANGE OF CHANNELS  
CHANNEL [s]abcddd/ff IS ALREADY ASSIGNED  
CHANNEL [s]abcddd IS NOT ESTABLISHED TO SR FEATURE  
CHANNEL [s]abcddd/ff IS UNDER TEST  
NPC [s]abc IS NOT PROVISIONED AS DIGROUP-A OF AN RT  
DIGROUP-B ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS  
NOT PROVISIONED  
DIGROUP-C ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS  
NOT PROVISIONED  
DIGROUP-D ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS  
NOT PROVISIONED  
NPC [s]abc IS IN LINE LOOPBACK STATE

#### Maintenance Conditions

##### *reason*

NO DSPU IS EQUIPPED  
NO SRM TYPE NPC IS EQUIPPED  
NO MJU TYPE NPC IS EQUIPPED  
TSI sft IS NOT EQUIPPED  
CCB sf IS NOT EQUIPPED  
ETSI sqq IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED  
UNIT [q]q MXR c NOT EQUIPPED  
UNIT [q]q IS NOT EQUIPPED  
UNIT [q]q FTMI d IS NOT EQUIPPED{OUT-OF-SERVICE|FAILED}  
UNIT [q]q FC sb IS NOT EQUIPPED  
UNIT [q]q IS NOT FACILITY TERMINATING TYPE  
CONNECTION EXCEEDS REMAINING EC CAPACITY  
  
BOTH CCN SIDES ARE OUT-OF-SERVICE  
INACTIVE CCN SIDE IN-SERVICE AND NPC ON INACTIVE SIDE  
IS OOS

ACTIVE CCN SIDE IS OUT-OF-SERVICE  
CCNI s IS OUT-OF-SERVICE  
TSI sft IS OUT-OF-SERVICE  
CCB sf IS OUT-OF-SERVICE  
CCI s IS OUT-OF-SERVICE  
ETSI sqq IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
NPC [s]abc IS OUT-OF-SERVICE  
NPC [s]abc SIDE s IS OUT-OF-SERVICE  
UNIT [q]q IS OUT-OF-SERVICE  
UNIT [q]q FTMI d IS OUT-OF-SERVICE  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE  
MAINTENANCE CONDITION PREVENTS COMPLETION OF THIS  
COMMAND  
ACTIVE CCN SIDE IS FAILED  
ACTIVE CCN SIDE IS PESTED  
CCNI s IS FAILED  
TSI sft IS FAILED  
CCB sf IS FAILED  
CCI s IS FAILED  
ETSI sqq IS FAILED  
DSPI IN UNIT [q]q IS FAILED  
NPC [s]abc IS FAILED  
NPC [s]abc SIDE s IS FAILED  
UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED  
UNIT [q]q IS FAILED  
UNIT [q]q FTMI d IS FAILED  
UNIT [q]q FC sb IS FAILED  
DSPI IN UNIT [q]q IS FAILED

## **SDCH,TO,PCH,DCC**

### **SUBRATE DISESTABLISH CHANNEL**

#### **Explanation Of Command**

This message disconnects a channel (or a range of channels) in a digroup from use by the subrate feature. If an error correction parity channel is associated with the named channel and is *not* named in the input command, the system automatically finds and disestablishes it as well. However, one should not take this to imply that the parity channel may be disconnected in a range, since this is not the case.

#### **Command**

##### **Nonhierarchical**

[I.19151]

**SDCH:FRM xy,SEQ ww:TO [s]abcddd[-eee][,PCH[ ppp]][,DCC]!**

##### **Hierarchical**

[I.19151]

**SDCH:FRM xy,SEQ ww:TO uvmnpddd[-eee][,PCH[ ppp]][,DCC]!**

#### **Completion Message**

##### **Nonhierarchical**

[O.19151]

**M hh:mm:ss xy,ww n[vv] SDCH [s]abcddd[-eee] [PCH ppp ][DCC ]\  
[OOS ] COMPL**

### **Hierarchical**

[O.19151]

M hh:mm:ss xy,ww n[vv] SDCH uvmnpddd[-eee] [PCH ppp ][DCC ]\  
[OOS ] COMPL

### **Denial Message**

### **Nonhierarchical**

[O.19151.01]

M hh:mm:ss xy,ww n[vv] SDCH [s]abcdddd[-eee][ PCH[ ppp]]\  
[ DCC][ qqg] 2 LN MSG:  
<reason> DNY

### **Hierarchical**

[O.19151.01]

M hh:mm:ss xy,ww n[vv] SDCH uvmnpddd[-eee][ PCH[ ppp]][ DCC]\  
[ qqg] 2 LN MSG:  
<reason> DNY

### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

[s]abc - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1 | Unit<br>2 | Unit<br>3 | Unit<br>4 | Unit<br>5 | Unit<br>6 |
|-----------|-----------|-----------|-----------|-----------|-----------|
| NPC       | NPC       | NPC       | NPC       | NPC       | NPC       |
| 001-160   | 161-320   | 321-480   | 481-640   | 641-800   | 801-960   |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number  
**eee** - Channel number for end of range specified

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**PCH** - Parity Channel

**ppp** - Parity error correction channel number

Included only for downward compatibility with the equivalent DACS/Subrate command. The PCH field indicates that a parity channel associated with channel ddd is to be disestablished as well.

If the PCH field is not used and a parity channel is present, the system automatically finds and disestablishes the parity channel associated with channel ddd.

ppp must agree with the parity channel assignment associated with channel ddd or the command will be denied. Channel ranges are not allowed if the range includes any channel associated with parity channel error correction.

**Note:** Disestablishment can only be done after all Subrate cross-connections are disconnected.

**DCC** - Disconnect Code

Causes the Digital Data System (DDS) Unassigned Multiplexer Channel (UMC) control code to be inserted in the disestablished channel(s) towards the digroup facility. If DDC is not specified, the disconnect code specified in the growth NPC command associated with the specified digroup is used.

**OOS** - Out of service

Channels connected with an out-of-service facility NPC may be disestablished with this command. Such disestablishments require no special keyword in the input command, but the output message will contain the OOS keyword to indicate that the facility is out-of-service. The user should note that the appropriate disconnect channel code may not be inserted in the disestablished channel until the facility is restored to service under these conditions.

**CUS** - Customer

Customer-controlled circuit

This disestablish command returns the customer control marking of channels that were previously marked with as CUS prior to being established to the Subrate feature.

The optional **PCH ppp** field appears whenever an associated error correction parity channel is also disestablished. It is not necessary for this field to be included in the input command, as the system automatically locates and disestablishes the parity channel whenever the associated data channel is disestablished.

**qqq** - Channel number involved in the denial (ddd through eee)

The user should note that none of the preceding channels in the range are completed if a problem is found, and subsequent channels may or may not have additional problems.

**reason** - Reason for denial

#### INPUT ERRORS

##### **reason**

CHANNEL NUMBER IS OUT OF RANGE FOR NPC TYPE SPECIFIED  
SPECIFIED CHANNEL IS NOT ESTABLISHED TO THE SUBRATE  
SPECIFIED CHANNEL HAS NO ASSOCIATED PARITY CHANNEL  
SPECIFIED DATA AND PARITY CHANNEL NUMBERS ARE INCONSISTENT  
RANGE DISCONNECT OF CHANNEL WITH PCH IS NOT ALLOWED  
CHANNEL [s]abcddd OR A CUSTOMER IS UNDER TEST  
RANGE DISESTABLISH OF DATA CH [s]abcddd HAVING PCH IS NOT  
ALLOWED  
ACTIVE SUBRATE CROSS-CONNECTS ARE PRESENT ON THE CHANNEL



## MAINTENANCE CONDITIONS

### **reason**

ACTIVE CROSS-CONNECT NETWORK SIDE IS FAILED  
SPECIFIED NPC IS UNEQUIPPED  
REQUIRED UNIT NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED CCB NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED TSI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED ETSI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED FTMI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED FC NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED DSPI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED SUBRATE PACK NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED SRM NOT EQUIPPED, NOT IN SERVICE, OR FAILED

### DS3U reasons for denial

#### *reason*

UNIT [q]q MXR c NOT EQUIPPED  
UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE  
UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED

| <b>st</b>   | <b>d</b>       | <i>Explanation</i>            |
|-------------|----------------|-------------------------------|
| <b>ROLL</b> | <b>{F T B}</b> | Circuit is involved in a roll |

## **SDIS,RATE,MPTM,MJU**

### **SUBRATE DISCONNECTION**

#### **Explanation Of Command**

This command provides multipoint branch disconnection of customers in both directions. All channels must have been cross-connected using the **SCON** or **SCNT** commands before they can be disconnected with **SDIS**. It is used to disconnect customers from the branches of a multipoint junction unit (MJU). The MJU itself remains connected to the circuit. As many as four branches can be disconnected from an MJU with one command. This command *cannot* be used to disconnect MJUs or branches that are cascaded to additional MJUs. To disconnect MJUs and branches, see **SDIS : RATE, MPTM, MJU, ALL**

Multipoint circuits can be disconnected incrementally, one command at a time. Many commands can address the same multipoint circuit. Indeed, many commands can address the same MJU of a circuit. A command might address an MJU, say MJU 0005 which has branches 1, 2, 3, and 4 connected, and disconnect customers from branches 1 and 2. This command results in no service interruption to branches 3 and 4 which are still connected. Another command might also address MJU 0005 and disconnect the customer from branch 3, leaving branch 4 undisturbed.

#### *Red Circuit and Customer Control Marking*

Subrate cross-connections are automatically marked as red circuits. Removal (RMV) of a facility terminating NPC with Subrate circuits connected to it requires the INCL keyword.

The **SDIS** action does not affect the customer control marking of a channel. The CUS marking is disabled while the channel is established to the Subrate feature, but is enabled once the channel is disestablished.

Once customers are disconnected, the UMC code is sent towards the customers' facilities. Disconnected customers do not require a re-establishment (**SECH**) of their channels before being re-connected (**SCON** or **SCNT**).

The master leg of the multipoint circuit (MPTM) is specified by digroup abc, channel ddd,

customer number ff, and serves as the reference for addressing all MJUs and branches in the circuit. At least one branch must be specified with its corresponding external facility termination data.

## Command

---

### Nonhierarchical

---

[I.19421]

SDIS:FRM xy,SEQ ww:[RATE rr,]MPTM [s]abcddd[/ff],MJU ssss,\  
<branch>[,<branch>][,<branch>][,<branch>]!

### Hierarchical

---

[I.19421]

SDIS:FRM xy,SEQ ww:[RATE rr,]MPTM uvmnpddd[/ff],MJU ssss,\  
<branch>[,<branch>][,<branch>][,<branch>]!

## Completion Message

---

### Nonhierarchical

---

[O.19421]

M hh:mm:ss xy,ww n[vv] SDIS RATE rr MPTM [s]abcddd/ff \  
MJU ssss 4 LN MSG:  
BRi [t]ghijjj/ll[ <branch>][ <branch>][ <branch>]  
NEW MJU ssss MA {tttt,u|MPTM} s BR1 <data> s BR2 <data> s  
BR3 <data> s BR4 <data> s \  
[OOS ]COMPL

### Hierarchical

---

[O.19421]

M hh:mm:ss xy,ww n[vv] SDIS RATE rr MPTM uvmnpddd/ff \  
MJU ssss 4 LN MSG:  
BRi wxkqrjjj/ll[ <branch>][ <branch>][ <branch>]  
NEW MJU ssss MA {tttt,u|MPTM} s BR1 <data> s BR2 <data> s  
BR3 <data> s BR4 <data> s \  
[OOS ]COMPL

## Denial Message

---

### Nonhierarchical

---

[O.19421.01]

M hh:mm:ss xy,ww n[vv] SDIS[ RATE rr] MPTM [s]abcddd/ff \  
MJU ssss 3 LN MSG:  
BRi[ [t]ghijjj/ll][ <branch>][ <branch>][ <branch>]  
<reason> DNY

### Hierarchical

---

[O.19421.01]

M hh:mm:ss xy,ww n[vv] SDIS[ RATE rr] MPTM uvmnpddd/ff \  
MJU ssss 3 LN MSG:  
BRi[ wxqrrjjj/ll][ <branch>][ <branch>][ <branch>]  
<reason> DNY

## Autonomous Message

---

Not applicable.

## Explanation Of Parameters

---

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number of the master leg

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number of the master leg

The allowable values are presented below:

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number of the multipoint circuit master leg

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - Customer number of the multipoint circuit master leg (1 through 20)

|       |                                     |
|-------|-------------------------------------|
| 01    | (DS0A at 2.4, 4.8, 9.6, or 56 kb/s) |
| 01-20 | (DS0B at 2.4 kb/s)                  |
| 01-10 | (DS0B at 4.8 kb/s)                  |
| 01-05 | (DS0B at 9.6 kb/s)                  |

**RATE** - Rate

**rr** - Circuit rate (24, 48, 56, or 96).

RATE rr is always optional on an **SDIS**. rr specifies the rate at which customers are cross-connected, and thus, the rate at which MJUs operate. All MJUs in the same circuit operate at the same rate. If specified, RATE rr will be checked, and must be the same rate as originally appeared in the **SCON** or **SCNT** command. If it is not the same, the **SDIS** command will be denied.

**MPTM** - Multipoint master

**[s]abcddd[/ff]**

- The **NPC**, **channel**, and optional customer number connected to the control leg of **MJU 1**.

This field is used to identify the circuit as a whole. There is exactly one multipoint master for a multipoint circuit.

The data sent **BY** the multipoint master is broadcast to all branches on the circuit. The data sent **TO** the multipoint master is a summation of data sent by the branches.

The customer number, **ff**, is optional when the customer is in a **DS0A** channel because there is only one customer in a **DS0A** channel. If specified, it must appear as **01**.

A customer number is required when specifying a customer in a **DS0B** signal. Allowed customer numbers differ depending on the type of **DS0B** channel, as shown below.

| <i>DS0B nn</i> | <i>Allowed Subrate Customer Numbers</i> |
|----------------|-----------------------------------------|
| DS0B 20        | 1 through 20                            |
| DS0B 10        | 1 through 10                            |
| DS0B 5         | 1 through 5                             |

Because the multipoint master is used to uniquely identify the circuit as a whole, it is required for all **SDIS** commands, regardless of which **MJU** the command addresses (**MJU ssss** in the message formats above).

**MJU** - Multipoint junction unit

**ssss** - **MJU** number of cross-connected **MJU** (0001-9999)

**MJU ssss** identifies the **MJU** that the command addresses. All **MJUs** are given a number, **ssss**, when the circuit is built with the **SCON** or **SCNT** commands. This number should be used in the **SDIS** command to address an **MJU**.



**branch** - External facility termination for branch connected to MJU ssss

| <b>branch</b>      | <i>Explanation</i>                                                                |
|--------------------|-----------------------------------------------------------------------------------|
| BRi [[t]ghijj]/ll] | Nonhierarchical branch and termination identification (see BRi [t]ghijj/ll below) |
| BRi [wxqrrjj]/ll]  | Hierarchical branch and termination identification (see BRi wxqrrjj/ll below)     |

The termination part of the branch is optional since the system knows what customer is connected to MJU ssss branch i.

The branch field identifies a branch that will be disconnected from the customer connected to it. If the customer is a DS0A customer, the customer number is optional and, if present, must be 01. If the NPC and channel numbers are specified for a DS0B customer the customer number is required.

From one to four branches can be specified in an **SDIS** command; disconnecting up to four customers from the four branches of an MJU. At least one branch must be specified. A maximum of four branches is allowed. The <branch> fields can appear in any order. Nothing is disconnected from branches that are not specified in the command.

Branch fields might be omitted for several reasons. Suppose branches 1, 2, and 3 of MJU ssss are connected with branch 4 unconnected. If the user wished to disconnect only the customer from branch 3, then only **BR3 [ [t]ghijj]/ll ]** would appear in the command. Branches 1 and 2 would not appear because the user does not want to disconnect them. Branch 4 would not appear because there is no customer to disconnect.

If an unconnected branch, like branch 4, is specified in an **SDIS** command, the command will be denied.

**BRi [t]ghijj/ll**  
- Nonhierarchical termination number connected to branch  
i of MJU ssss

**BRi wxqrrjj/ll**  
- Hierarchical termination number connected to branch i of MJU ssss

|               |                                                                                |
|---------------|--------------------------------------------------------------------------------|
| <b>BR</b>     | - Branch                                                                       |
| <b>i</b>      | - Branch number of MJU ssss (1 through 4)                                      |
| <b>[t]ghi</b> | - The 3- or 4-digit nonhierarchical NPC number of termination connected to BRi |

|              |                                                                                                                                                     |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>wxkqr</b> | - Hierarchical NPC number of termination connected to BRi.                                                                                          |
| <b>jjj</b>   | - Channel number of termination connected to BRi                                                                                                    |
| <b>ll</b>    | - Customer number of termination connected to BRi                                                                                                   |
| <b>NEW</b>   | - New                                                                                                                                               |
| <b>BR1</b>   | - Branch 1                                                                                                                                          |
| <b>BR2</b>   | - Branch 2                                                                                                                                          |
| <b>BR3</b>   | - Branch 3                                                                                                                                          |
| <b>BR4</b>   | - Branch 4                                                                                                                                          |
| <b>data</b>  | - Branch connection data upon completion of the branch disconnection                                                                                |
| <b>data</b>  | <i>Explanation</i>                                                                                                                                  |
| [0]000000/00 | Nonhierarchical format for unassigned branch                                                                                                        |
| 00000000/00  | Hierarchical format for unassigned branch                                                                                                           |
| [t]ghijj/ll  | Nonhierarchical format for branch connected to an external facility termination                                                                     |
| wxqrijj/ll   | Hierarchical format for branch connected to an external facility termination                                                                        |
| MJU nnnn     | Branch connected to MJU number nnnn (0002 through 9999)                                                                                             |
| <b>tttt</b>  | - MJU number connected to control leg of MJU ssss (0001 through 9999)                                                                               |
| <b>u</b>     | - Branch number of MJU tttt (1 through 4)                                                                                                           |
| <b>s</b>     | - Termination state of the MJU control or branch leg                                                                                                |
|              | Indicates the terminate and leave state of one or both ends of the cross-connection. The "TO" direction is defined as the direction facing the MJU. |
| <b>s</b>     | <i>Explanation</i>                                                                                                                                  |
| F            | FROM (FROM side is terminated)                                                                                                                      |
| T            | TO (TO side is terminated)                                                                                                                          |
| B            | BOTH (BOTH sides are terminated)                                                                                                                    |
| R            | RELEASED (Neither side is terminated)                                                                                                               |

**MA** - Master

MA identifies the upstream MJU number and branch connected to the control leg of MJU ssss. In the case of MJU 1, the control leg is actually the master leg of the circuit and is indicated in the MA field by MPTM.

**OOS** - Out-of-service

OOS appears in the output whenever the disconnection involves an out-of-service or failed facility termination NPC. In this case, the user should note that the Unassigned Multiplexer Channel (UMC) code may not be inserted towards the facilities of the disconnected circuit until the facility is restored to service.

**reason** - *Reason for denial*

**reason**

CHANNEL [s]abcddd IS A PARITY CHANNEL  
CUSTOMER NUMBER MUST BE SPECIFIED FOR  
DS0B CHANNEL [s]abcddd  
CHANNEL [s]abcddd/FF IS CONNECTED BUT NOT  
AS A MULTIPOINT MASTER LEG  
CHANNEL [s]abcddd/ff IS SPECIFIED MORE  
THAN ONCE  
INVALID CHANNEL NUMBER FOR CHANNEL  
[X]XXXXYY  
SPECIFIED RATE DOES NOT MATCH EXISTING  
CIRCUIT RATE  
BR i IS SPECIFIED MORE THAN ONCE  
BR i IS CONNECTED TO A DOWNSTREAM MJU  
MJU ssss DOES NOT EXIST IN THE CIRCUIT  
BR i IS NOT CONNECTED AS SPECIFIED

CUSTOMER NUMBER ff IS OUT OF RANGE FOR  
DS0A CHANNEL [s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR  
DS0B CHANNEL [s]abcddd  
CHANNEL [s]abcddd IS OUT OF RANGE  
[X]XXXXYY-FFF IS AN INVALID RANGE OF  
CHANNELS

BR i IS UNASSIGNED  
CHANNEL [s]abcddd/ff IS UNASSIGNED

CHANNEL [s]abcddd IS NOT ESTABLISHED TO SR  
FEATURE  
CHANNEL [s]abcddd/ff IS UNDER TEST  
NPC [X]XXX IS NOT PROVISIONED AS DIGROUP-A  
OF AN RT  
THE NETWORK PROCESSING CIRCUIT ASSOCIATED  
WITH VIRTUAL CHANNEL [X]XXXXYY IS  
NOT PROVISIONED  
NPC [X]XXX IS IN LINE LOOPBACK STATE  
CIRCUIT IS UNDER TEST

TSI sft IS NOT EQUIPPED  
CCB sf IS NOT EQUIPPED  
ETSI sqq IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED  
UNIT [q]q IS NOT EQUIPPED  
UNIT [q]q FTMI d IS NOT EQUIPPED  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
UNIT [q]q MXR c NOT EQUIPPED

UNIT [q]q IS NOT FACILITY TERMINATING TYPE

BOTH CCN SIDES ARE OUT-OF-SERVICE  
ACTIVE CCN SIDE IS OUT-OF-SERVICE  
CCNI s IS OUT-OF-SERVICE  
TSI sft IS OUT-OF-SERVICE  
CCB sf IS OUT-OF-SERVICE  
CCI s IS OUT-OF-SERVICE  
ETSI sqq IS OUT-OF-SERVICE  
UNIT [q]q IS OUT-OF-SERVICE  
UNIT [q]q FTMI d IS OUT-OF-SERVICE  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
NPC [s]abc IS OUT-OF-SERVICE  
NPC [s]abc SIDE s IS OUT-OF-SERVICE  
UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE

ACTIVE CCN SIDE IS FAILED  
ACTIVE CCN SIDE IS PESTED  
CCNI s IS FAILED  
TSI sft IS FAILED  
CCB sf IS FAILED  
CCI s IS FAILED  
ETSI sqq IS FAILED  
UNIT [q]q IS FAILED  
UNIT [q]q FTMI d IS FAILED  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS FAILED  
NPC [s]abc SIDE s IS FAILED  
UNIT [q]q FLI k IS FAILED  
U:g/NIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED

## **SDIS,RATE,MPTM,MJU,ALL**

### **SUBRATE DISCONNECTION**

#### **Explanation Of Command**

This command provides deletion of MJUs and disconnection of customers in both directions. Customers must have been cross-connected (using the **SCON** or **SCNT** verbs) before they can be disconnected with **SDIS**. This command performs a cascaded MJU disconnection. The **MJU ssss** field identifies the place to begin the disconnection. **MJU ssss** as well as any MJUs cascaded from it will be disconnected. A maximum of 21 MJUs can be disconnected in one command. Message Number I.19421 only disconnects customers from branches of MJUs.

#### **Command**

##### **Nonhierarchical**

[I.19431]

**SDIS:FRM xy,SEQ ww:[RATE rr,]MPTM [s]abcddd[/ff],MJU ssss \  
[,ALL]!**

##### **Hierarchical**

[I.19431]

**SDIS:FRM xy,SEQ ww:[RATE rr,]MPTM uvmnpddd[/ff],MJU ssss \  
[,ALL]!**

## Completion Message

---

### Nonhierarchical

---

[O.19431]

M hh:mm:ss xy,ww n[vv] SDIS RATE rr MPTM [s]abcddd/ff \  
MJU ssss[ ALL] e LN MSG:  
OLD MJU ssss MA {tttt,u|MPTM } s BR1 <data> s BR2 <data> s  
BR3 <data> s BR4 <data> s  
<Two data lines for each additional disconnected OLD MJU (see \  
below)> EOM

.  
.  
.

M hh:mm:ss xy,ww n[vv] SDIS RATE rr MPTM [s]abcddd/ff \  
MJU ssss[ ALL] e LN MSG:  
OLD MJU vvvv MA wwwv,x s BR1 <data> s BR2 <data> s  
BR3 <data> s BR4 <data> s

.  
.  
.

NEW MJU tttt MA {yyyy,z|MPTM } s BR1 <data> s BR2 <data> s  
BR3 <data> s BR4 <data> s\  
[OOS ]COMPL

### Hierarchical

---

[O.19431]

M hh:mm:ss xy,ww n[vv] SDIS RATE rr MPTM uvmnpddd/ff \  
MJU ssss[ ALL] e LN MSG:  
OLD MJU ssss MA {tttt,u|MPTM } s BR1 <data> s BR2 <data> s  
BR3 <data> s BR4 <data> s  
<Two data lines for each additional disconnected OLD MJU (see \  
below)> EOM

.  
.  
.

```
M hh:mm:ss xy,ww n[vv] SDIS RATE rr MPTM uvmnpddd/ff \
MJU ssss[ ALL] e LN MSG:
OLD MJU vvvv MA www,x s BR1 <data> s BR2 <data> s
                        BR3 <data> s BR4 <data> s
                        .
                        .
                        .
NEW MJU tttt MA {yyyy,z|MPTM } s BR1 <data> s BR2 <data> s
                        BR3 <data> s BR4 <data> s\
[OOS ]COMPL
```

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.19431.01]

```
M hh:mm:ss xy,ww n[vv] SDIS[ RATE rr] MPTM [s]abcdddd/ff \
MJU ssss[ ALL] e LN MSG:
[OLD MJU ssss MA {tttt,u|MPTM } s BR1 <data> s BR2 <data> s]
[ BR3 <data> s BR4 <data> s]
<reason> DNY
```

#### **Hierarchical**

---

[O.19431.01]

```
M hh:mm:ss xy,ww n[vv] SDIS[ RATE rr] MPTM uvmnpddd/ff \
MJU ssss[ ALL] e LN MSG:
[OLD MJU ssss MA {tttt,u|MPTM } s BR1 <data> s BR2 <data> s]
[ BR3 <data> s BR4 <data> s]
<reason> DNY
```

### **Autonomous Message**

---

Not applicable.



### Explanation Of Parameters

**e** - Number of lines in the message

**RATE** - Rate

**rr** - Circuit rate (24, 48, 96, 56)

The optional RATE rr field specifies the rate at which customers are cross-connected, and thus, the rate at which MJUs operate. All MJUs in the same circuit operate at the same rate. If specified, rr will be checked and must be the same rate as given in the SCON or SCNT command. If it is not the same, the SDIS command will be denied.

**MPTM** - Multipoint master

The NPC, channel, and optional customer number of the external facility termination connected to the control leg of MJU 1. There is exactly one multipoint master for a multipoint circuit. This field is used to identify the circuit as a whole. The data sent by this multipoint master is broadcast to all branches on the circuit. The data sent to the multipoint master is a summation of data sent by the branches.

The multipoint master is required for all SDIS commands, since it uniquely identifies the circuit, regardless of which MJU the command addresses (MJU ssss in the INPUT FORMATS).

**[s]abc** - The 3- of 4-digit nonhierarchical NPC number of the multipoint circuit master leg

The allowable values are presented below:

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number of the multipoint circuit master leg

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The allowable values are presented below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number of the multipoint circuit master leg

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - Customer number of the multipoint circuit master leg (1 through 20)

ff is optional when the customer is in a DS0A channel because there is only one customer in a DS0A channel. If specified, it must appear as 01.

ff is required when specifying a customer in a DS0B signal. Allowed customer numbers differ depending on the type of DS0B channel, as shown below.

| <i>DS0B nn</i> | <i>Allowed Subrate Customer Numbers</i> |
|----------------|-----------------------------------------|
| DS0B 20        | 1 through 20                            |
| DS0B 10        | 1 through 10                            |
| DS0B 5         | 1 through 5                             |

**ff** *Explanation*

|       |                                     |
|-------|-------------------------------------|
| 01    | (DS0A at 2.4, 4.8, 9.6, or 56 kb/s) |
| 01-20 | (DS0B at 2.4 kb/s)                  |
| 01-10 | (DS0B at 4.8 kb/s)                  |
| 01-05 | (DS0B at 9.6 kb/s)                  |

**NEW** - New

The lines in the output message associated with the NEW keyword list the new connection data for the just-upstream MJU after the disconnection of the control leg of MJU ssss. These cross-connections remain in effect after completion of the disconnect. If the disconnected MJU ssss is MJU 1, the NEW MJU fields are filled with zeroes, indicating that no MJUs remain in the circuit.

**OLD** - Old

The lines in the output message associated with the OLD keyword list all of the disconnected MJUs and branches associated with MJU ssss. This includes the branch data of MJU ssss, as well as the data for up to twenty additional MJUs that may have been cascaded from MJU ssss and its associated downstream connections.

**MJU** - Multipoint junction unit

**ssss** - MJU number of disconnected MJU (0001 through 9999)

ssss identifies the MJU at which to begin the disconnection. Leading zeros are not required when specifying ssss. All MJUs are given a number, ssss, when the circuit is built with the SCON or SCNT commands. This number should be used in the SDIS command to choose the MJU at which to begin the disconnection. The maximum number of MJUs that can be disconnected with a single command is 21. If there are more than 20 MJUs cascaded (connected directly or indirectly) to MJU ssss, the command will be denied. If by specifying ssss, 21 or fewer MJUs will be disconnected, the control leg of MJU ssss will be disconnected as will everything cascaded from the branches of MJU ssss. If the multipoint circuit is composed of 21 or fewer MJUs and ssss is specified as 0001, the entire multipoint circuit is disconnected.

**ALL** - All

If ALL is not specified, all the branches of MJU ssss must be unconnected. Then, MJU ssss and its control leg will be disconnected.

If ALL is specified, it denotes that MJU ssss, its control leg, and everything connected directly or indirectly to the branches of MJU ssss will be disconnected.

ALL appears in the output message only if present in the input command, and is normally used whenever the disconnection of MJU ssss also results in the disconnection of its branches from external facility terminations or cascaded MJUs.

**MA** - Master

The MA keyword identifies the upstream MJU number and branch connected to the control leg of MJU ssss. In the case of MJU 1, the control leg is actually the master leg of the circuit and is indicated in the MA field by MPTM.

**tttt** - MJU number connected to control leg of MJU ssss (0001 through 9999)  
**u** - Branch number of MJU tttt (1 through 4)

**vvvv** - MJU number of additional cascaded MJUs (0002 through 9999)

**wwwv** - MJU number connected to control leg of MJU vvvv  
**x** - Branch number of MJU connected to control leg of MJU vvvv

**yyyy** - MJU number connected to control leg of MJU tttt  
**z** - Branch number of MJU connected to control leg of MJU tttt

**BR1** - Branch 1

**BR2** - Branch 2

**BR3** - Branch 3

**BR4** - Branch 4

The BRi <data> fields refer to the connection data associated with the four branch legs of MJU ssss. Each branch data field can take one of three forms, depending on whether the branch is unassigned, cross-connected to an external facility termination, or cross-connected to a cascaded MJU control leg.

**data** - Branch connection data in the form:

| <b>data</b>         | <i>Explanation</i>                                                                |
|---------------------|-----------------------------------------------------------------------------------|
| <b>[0]000000/00</b> | - Nonhierarchical format for unassigned branches                                  |
| <b>[t]ghijjj/ll</b> | - Nonhierarchical format for branches connected to external facility terminations |
| <b>00000000/00</b>  | - Nonhierarchical format for unassigned branches                                  |
| <b>wxkqrjjj/ll</b>  | - Nonhierarchical format for branches connected to external facility terminations |
| <b>MJU nnnn</b>     | - For branches connected to another MJU with number nnnn (0002 through 9999)      |

**s** - Termination state of the MJU control or branch leg

Indicates whether either or both ends of the cross-connection are in the terminate and leave state. The "TO" direction is defined as the direction facing the MJU.

| <i>s</i> | <i>Explanation</i>                   |
|----------|--------------------------------------|
| R        | Released. Neither side is terminated |
| F        | FROM side is terminated              |
| T        | TO side is terminated                |
| B        | BOTH sides are terminated            |

**OOS** - Out-of-service

If the disconnected facilities are associated with one or more OOS facility terminating NPCs, the OOS keyword appears in the output message. In this case, the user should note that the Unassigned Multiplexer Channel (UMC) code may not be inserted towards the facilities of the disconnected circuits until they are restored to service.

**reason** - Reason for denial

#### **reason**

CHANNEL [s]abcddd IS NOT ESTABLISHED TO SR  
FEATURE  
CHANNEL [s]abcddd IS A PARITY CHANNEL  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR  
DS0A CHANNEL [s]abcddd  
CUSTOMER NUMBER MUST BE SPECIFIED FOR  
DS0B CHANNEL [s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR  
DS0B CHANNEL [s]abcddd  
CHANNEL [s]abcddd/FF IS CONNECTED BUT NOT  
AS A MULTIPOINT MASTER LEG  
CHANNEL [s]abcddd/ff IS UNDER TEST  
CHANNEL [s]abcddd/ff IS UNASSIGNED  
CHANNEL [s]abcddd IS OUT OF RANGE

NPC [X]XXX IS NOT PROVISIONED AS DIGROUP-A  
OF AN RT  
THE NPC ASSOCIATED WITH VIRTUAL CHANNEL  
[X]XXXXYY IS  
NOT PROVISIONED  
INVALID CHANNEL NUMBER FOR CHANNEL  
[X]XXXXYY  
[X]XXXXYY-FFF IS AN INVALID RANGE OF  
CHANNELS  
NPC [X]XXX IS IN LINE LOOPBACK STATE  
MJU ssss DOES NOT EXIST IN THE CIRCUIT  
NUMBER OF DISCONNECTED MJUS EXCEEDS  
THE LIMIT OF 21  
SPECIFIED RATE DOES NOT MATCH EXISTING  
CIRCUIT RATE  
CIRCUIT IS UNDER TEST  
CONNECTED BRANCHES ARE PRESENT AND  
THE ALL KEYWORD IS NOT SPECIFIED

BOTH CCN SIDES ARE OUT-OF-SERVICE  
ACTIVE CCN SIDE IS {OUT-OF-SERVICE|FAILED  
|PESTED}  
UNIT [q]q IS NOT FACILITY TERMINATING TYPE  
CCNI s IS {OUT-OF-SERVICE|FAILED}  
TSI sft IS {NOT EQUIPPED|OUT-OF-SERVICE  
|FAILED}  
CCB sf IS {NOT EQUIPPED|OUT-OF-SERVICE  
|FAILED}  
CCI s IS {OUT-OF-SERVICE|FAILED}  
ETSI sqq IS {NOT EQUIPPED|OUT-OF-SERVICE  
|FAILED}  
UNIT [q]q IS {NOT EQUIPPED|OUT-OF-SERVICE  
|FAILED}  
UNIT [q]q FTMI d IS {NOT EQUIPPED  
|OUT-OF-SERVICE|FAILED}  
UNIT [q]q FC sb IS {NOT EQUIPPED  
|OUT-OF-SERVICE|FAILED}  
DSPI IN UNIT [q]q IS {OUT-OF-SERVICE|FAILED}  
NPC [s]abc IS NOT EQUIPPED  
NPC [s]abc SIDE s IS {OUT-OF-SERVICE|FAILED}  
MAINTENANCE CONDITION PREVENTS  
COMPLETION OF THIS COMMAND

DS3U related errors

UNIT [q]q MXR c NOT EQUIPPED



UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE

UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED

## **SDIS,RATE,TPT,FROM,TO**

### **SUBRATE DISCONNECTION**

#### **Explanation Of Command**

This command disconnects the **FROM** and **TO** customers in both directions. The channels **abcd** and **ghij** must be cross-connected (using the **SCON** or **SCNT** verbs) before they can be disconnected with **SDIS**.

The optional **RATE rr** field defines the rate at which the **FROM** and **TO** customers were cross-connected. If specified it will be checked and must be the same rate as originally appeared in the **SCON** or **SCNT** command. The **TPT** keyword means two-point and is optional. It conveys no information and is retained for DACS/SRDC compatibility.

#### **Command**

##### **Nonhierarchical**

[I.19401]

```
SDIS:FRM xy,SEQ ww:[RATE rr[,TPT],] FROM [s]abcd[/ff],\  
TO [t]ghij[/ll]!
```

##### **Hierarchical**

[I.19401]

```
SDIS:FRM xy,SEQ ww:[RATE rr[,TPT],] FROM uvmnpddd[/ff],\  
TO wxkqrjjj[/ll]!
```

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.19401]

M hh:mm:ss xy,ww n[vv] SDIS RATE rr,TPT;[s]abcddd/ff,\  
[t]ghijjj/ll[ OOS] COMPL

#### **Hierarchical**

---

[O.19401]

M hh:mm:ss xy,ww n[vv] SDIS RATE rr,TPT;uvmnpddd/ff,\  
wxkqrjjj/ll[ OOS] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.19401.01]

M hh:mm:ss xy,ww n[vv] SDIS[ RATE rr] FROM [s]abcddd/ff \  
TO [t]ghijjj/ll 2 LN MSG:  
<reason> DNY

#### **Hierarchical**

---

[O.19401.01]

M hh:mm:ss xy,ww n[vv] SDIS[ RATE rr] FROM uvmnpddd/ff \  
TO wxkqrjjj/ll 2 LN MSG:  
<reason> DNY

### **Autonomous Message**

---

Not applicable.

### Explanation Of Parameters

- rr** - Circuit rate (24, 48, 96, or 56)
- TPT** - Two-point
- [s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number
- [t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM channel number  
**jjj** - TO channel number

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ll** - TO customer number  
**ff** - FROM customer number

|       |                                     |
|-------|-------------------------------------|
| 01    | (DS0A at 2.4, 4.8, 9.6, or 56 kb/s) |
| 01-20 | (DS0B at 2.4 kb/s)                  |
| 01-10 | (DS0B at 4.8 kb/s)                  |
| 01-05 | (DS0B at 9.6 kb/s)                  |

**reason** - Reason for denial

*reason*

CHANNEL [s]abcddd IS A PARITY CHANNEL  
CUSTOMER NUMBER MUST BE SPECIFIED FOR DS0B  
CHANNEL [s]abcddd  
INVALID CHANNEL NUMBER FOR CHANNEL [X]XXXXYY  
SPECIFIED RATE DOES NOT MATCH EXISTING CIRCUIT RATE

CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0A  
CHANNEL [s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0B  
CHANNEL [s]abcddd  
CHANNEL [s]abcddd IS OUT OF RANGE

CHANNELS ARE NOT CONNECTED TO EACH OTHER

CHANNEL [s]abcddd IS NOT ESTABLISHED TO SR FEATURE  
CHANNEL [s]abcddd/ff IS UNDER TEST  
NPC [X]XXX IS NOT PROVISIONED AS DIGROUP-A OF AN RT  
THE NPC ASSOCIATED WITH VIRTUAL CHANNEL [X]XXXXYY IS NOT  
PROVISIONED  
NPC [X]XXX IS IN LINE LOOPBACK STATE

UNIT [q]q IS NOT FACILITY TERMINATING TYPE

TSI sft IS NOT EQUIPPED  
CCB sf IS NOT EQUIPPED  
ETSI sqq IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED  
UNIT [q]q IS NOT EQUIPPED  
UNIT [q]q FTMI d IS NOT EQUIPPED  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
UNIT [q]q MXR c NOT EQUIPPED

BOTH CCN SIDES ARE OUT-OF-SERVICE  
ACTIVE CCN SIDE IS OUT-OF-SERVICE  
CCNI s IS OUT-OF-SERVICE  
TSI sft IS OUT-OF-SERVICE  
CCB sf IS OUT-OF-SERVICE  
CCI s IS OUT-OF-SERVICE  
ETSI sqq IS OUT-OF-SERVICE  
UNIT [q]q IS OUT-OF-SERVICE  
UNIT [q]q FTMI d IS OUT-OF-SERVICE  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
NPC [s]abc IS OUT-OF-SERVICE  
NPC [s]abc SIDE s IS OUT-OF-SERVICE  
UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE  
MAINTENANCE CONDITION PREVENTS COMPLETION OF THIS  
COMMAND

ACTIVE CCN SIDE IS FAILED  
CCNI s IS FAILED  
TSI sft IS FAILED  
CCB sf IS FAILED  
CCI s IS FAILED  
ETSI sqq IS FAILED  
UNIT [q]q IS FAILED  
UNIT [q]q FTMI d IS FAILED  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS FAILED  
NPC [s]abc IS FAILED  
NPC [s]abc SIDE s IS FAILED  
UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED  
ACTIVE CCN SIDE IS PESTED



| st   | d       | Explanation                   |
|------|---------|-------------------------------|
| ROLL | {F T B} | Circuit is involved in a roll |

## **SDIS,RATE,TPT,FROM,TO**

### **SUBRATE DISCONNECTION**

#### **Explanation Of Command**

This command disconnects the **FROM** and **TO** customers in both directions. It extends the format of the **SDIS, RATE, TPT, FROM, TO** command to ranges of two-point, two-way disconnections. This command is the same as the **SDIS, RATE, TPT, FROM, TO** command except for the range feature. See the **SDIS, RATE, TPT, FROM, TO** command for an explanation of features not related to the range feature.

The **FROM** and **TO** fields specify the customers to disconnect. The **FROM** and **TO** keywords have no significance to DACS II and either customer or range of customers may be designated **FROM** or **TO**. The **FROM** and **TO** designations do not have to be the same on an **SDIS, RATE, TPT, FROM, TO** command as they were on the corresponding **SCON** or **SCNT** command.

#### **Command**

##### **Nonhierarchical**

[l.19411]

```
SDIS:FRM xy,SEQ ww:[RATE rr,][TPT,] FROM [s]abcddd{-eee[/01]|\  
/ff-mm},TO [t]ghijjj{-kkk[/01]|/ll-nn}!
```

##### **Hierarchical**

[l.19411]

```
SDIS:FRM xy,SEQ ww:[RATE rr,][TPT,] FROM uvmnpdd{-eee[/01]|\  
/ff-mm},TO wxkqrjjj{-kkk[/01]|/ll-nn}!
```

## **Completion Message**

---

### **Nonhierarchical**

---

[O.19411]

M hh:mm:ss xy,ww n[vv] SDIS [RATE rr] [s]abcddd{-eee[/01]|\  
/ff-mm}[t]ghijjj{-kkk[/01]|/ll-nn} [ OOS] COMPL

### **Hierarchical**

---

[O.19411]

M hh:mm:ss xy,ww n[vv] SDIS [RATE rr] uvmnpddd{-eee[/01]|\  
/ff-mm}wxkqrjjj{-kkk[/01]|/ll-nn}[ OOS] COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.19411.01]

M hh:mm:ss xy,ww n[vv] SDIS[ RATE rr] FROM [s]abcddd{-eee\  
[/01]|/ff-mm} 3 LN MSG:  
TO [t]ghijjj{-kkk[/01]|/ll-nn} ddd/{01|ff},jjj/{01|ll}  
<reason> DNY

### **Hierarchical**

---

[O.19411.01]

M hh:mm:ss xy,ww n[vv] SDIS[ RATE rr] FROM uvmnpddd{-eee\  
[/01]|/ff-mm} 3 LN MSG:  
TO wxkqrjjj{-kkk[/01]|/ll-nn} ddd/{01|ff},jjj/{01|ll}  
<reason> DNY

## **Autonomous Message**

---

Not applicable.

### Explanation Of Parameters

**RATE** - Rate

**rr** - Circuit rate (24, 48, 96, or 56)

**TPT** - Two-Point, Two-way disconnection

**FROM** - From

**TO** - To

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number

**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

The allowable values are presented below:

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number  
**wxkqr** - Hierarchical TO NPC number

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

The allowable values are presented below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM Channel number  
**eee** - FROM channel number for end of range specified  
**jjj** - TO Channel number  
**kkk** - TO channel number for end of range specified

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - FROM DS0A or DS0B Customer number  
**mm** - FROM DS0B Customer number for end of range  
**ll** - TO DS0A or DS0B Customer number, similar to ff  
**nn** - TO DS0B Customer number for end of range

ff explanation

01 (DS0A at 2.4, 4.8, 9.6, or 56 kb/s)  
01-20 (DS0B at 2.4 kb/s)  
01-10 (DS0B at 4.8 kb/s)  
01-05 (DS0B at 9.6 kb/s)

There are two ways to specify ranges.

- Range specified in channel field: [s]abcd-dd-eee[/01]

This option applies only to DS0A channels, and the channel range, i.e., eee, must be specified when a range of DS0A customers is desired. The customer number for DS0a channels is always 01. For example, [0]001002-010/01 specifies a range of nine DS0A customers on NPC 001, while [0]001002-010 does the same thing without the optional customer number.

- Range specified in customer number field: [s]abcd-dd/ff-mm

This option applies only to a DS0B channel, and the range must be specified in the customer number field when a range of DS0B customers is desired. If NPC [0]020, channel 004 was established (using the SECH verb) as a 10 customer DS0B channel, then [0]020004/01-09 specifies a range of nine customers on NPC [0]020 channel 004.

Specifying a range in both the channel and customer number field for the same customer specification, such as [0]001001-009/01-09, will be denied.

**00S** - Out-of-service

**reason** - Reason for denial

*Reason*

CHANNEL [s]abcd-dd IS A PARITY CHANNEL  
CUSTOMER NUMBER MUST BE SPECIFIED FOR DS0B  
CHANNEL [s]abcd-dd  
CUSTOMER NUMBER RANGE NOT ALLOWED FOR DS0A  
CHANNEL [s]abcd-dd  
CHANNEL RANGE NOT ALLOWED FOR DS-OB CHANNEL [s]abcd-dd  
INVALID CHANNEL NUMBER FOR CHANNEL [X]XXXXYY  
FROM AND TO RANGES ARE NOT THE SAME SIZE  
FROM AND TO RANGES PARTIALLY OVERLAP  
SPECIFIED RATE DOES NOT MATCH EXISTING CIRCUIT RATE

CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0A  
CHANNEL [s]abcddd

CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0B  
CHANNEL [s]abcddd

CHANNEL [s]abcddd IS OUT OF RANGE

[X]XXXXYY-FFF IS AN INVALID RANGE OF CHANNELS

CHANNEL [s]abcddd/ff IS UNDER TEST

CHANNELS ARE NOT CONNECTED TO EACH OTHER

CHANNEL [s]abcddd/ff IS UNASSIGNED

CHANNEL [s]abcddd IS NOT ESTABLISHED TO SR FEATURE

NPC [X]XXX IS NOT PROVISIONED AS DIGROUP-A OF AN RT

THE NPC ASSOCIATED WITH VIRTUAL CHANNEL [X]XXXXYY IS NOT  
PROVISIONED

NPC [X]XXX IS IN LINE LOOPBACK STATE

UNIT [q]q IS NOT FACILITY TERMINATING TYPE

TSI sft IS NOT EQUIPPED

CCB sf IS NOT EQUIPPED

ETSI sqq IS NOT EQUIPPED

NPC [s]abc IS NOT EQUIPPED

UNIT [q]q IS NOT EQUIPPED

UNIT [q]q FTMI d IS NOT EQUIPPED

UNIT [q]q FC sb IS OUT-OF-SERVICE

UNIT [q]q MXR c NOT EQUIPPED



BOTH CCN SIDES ARE OUT-OF-SERVICE  
ACTIVE CCN SIDE IS OUT-OF-SERVICE  
CCNI s IS OUT-OF-SERVICE  
TSI sft IS OUT-OF-SERVICE  
CCB sf IS OUT-OF-SERVICE  
CCI s IS OUT-OF-SERVICE  
ETSI sqq IS OUT-OF-SERVICE  
UNIT [q]q IS OUT-OF-SERVICE  
UNIT [q]q FTMI d IS OUT-OF-SERVICE  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
NPC [s]abc IS OUT-OF-SERVICE  
NPC [s]abc SIDE s IS OUT-OF-SERVICE  
UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE  
MAINTENANCE CONDITION PREVENTS COMPLETION OF THIS  
COMMAND

ACTIVE CCN SIDE IS FAILED  
CCNI s IS FAILED  
TSI sft IS FAILED  
CCB sf IS FAILED  
CCI s IS FAILED  
ETSI sqq IS FAILED  
DSPI IN UNIT [q]q IS FAILED  
NPC [s]abc IS FAILED  
NPC [s]abc SIDE s IS FAILED  
UNIT [q]q IS FAILED  
UNIT [q]q FTMI d IS FAILED  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED  
ACTIVE CCN SIDE IS PESTED

## **SECH,TO,DS0A,DS0B,SEC,PCH**

### **SUBRATE ESTABLISH CHANNEL**

#### **Explanation Of Command**

This command connects a channel (or a range of channels) in a digroup to the subrate feature. When connected to the subrate feature, the channel is provided with test access capability using the **STST** commands and, if specified, a subrate multiplexer and/or an error correction function. A channel must be established before any cross-connections can be made via the **SCON** command. This command is recommended over the DACS/SRDC-compatible version **SECH: : TO, RATE, DP, PCH** (I.19111) due to its improved clarity.

DACS II will deny this command if it attempts to establish a DS0B channel on channel 24 of a DS1 provisioned with the T1DM framing format.

This command is used to establish five types of channels as follows:

1. A DS0B channel capable of multiplexing 5, 10, or 20 subrate customers.
2. A DS0A channel (at any rate) without error correction.
3. A subrate DS0A channel with subrate dataport error correction.
4. A 56-kb/s channel with parity channel error correction. (This type of error correction is also commonly referred to as "56-kb/s dataport" error correction.)
5. A DS0B channel capable of multiplexing 5, 10, or 20 subrate customers and parity channel error correction.

When a channel is established, it cannot be already established, cross-connected, or under test access. All channels within a specified range are established with the same parameters.

**Note:** For user convenience, an alphabetical "O" or a numerical "0" can be typed for the zero in DS0.

### **DS0B Channels Without Error Correction**

A DS0B channel is established by specifying a digroup and channel and the DS0B nn field.

The SEC or PCH fields must not be present for this type of channel.

As indicated above, a mix of customer rates can be cross-connected, provided the maximum rate for each type of subrate multiplexer is not exceeded.

### **DS0A Channels Without Error Correction**

A DS0A channel without error correction is established by specifying a digroup and channel and DS0A rr.

Again, the SEC or PCH keywords must not be present.

**Note:** The Subrate feature performs no rate-sensitive processing on this type of channel, and cross-connection is allowed to any other Subrate channel. The user must ensure that the signal rate is compatible with the intended cross-connection.

For example, if a DS0A channel with an actual rate of 4.8 kb/s is established, a cross-connection to a 10-channel or 20-channel multiplexer is allowed, but only the connection to the 10-channel multiplexer will provide error-free transmission.

### **DS0A Channels With Subrate Error Correction**

A subrate DS0A channel with subrate error correction is established by specifying the DS0A keyword with an rr value of 24, 48, or 96, and the SEC keyword. Subrate error correction performs a majority vote among the repeated bytes inherent in the byte-stuffed subrate DS0A signal to determine the corrected data. An rr value of 56 is not allowed, and the PCH keyword must not be present in specifying this type of channel.

### **56 kb/s Channels With Error Correction**

A 56-kb/s channel with parity channel error correction is established by specifying the DS0A keyword with an rr value of 56, and the PCH keyword. This command has the effect of establishing two channels, one for carrying the customer data and one for carrying parity error correction information. If no parity channel number (ppp) is specified, the parity channel is assigned automatically to the next higher numbered channel from the data channel (ddd + 1). Due to the need to assign parity channels, range provisioning of 56 kb/s channels with error correction is not allowed. Also, use of the PCH keyword when the rr value is less than 56 is not allowed.

### **DS0B Channels With Error Correction**

A DS0B channel that also has parity channel error correction performed on it is established by specifying the DS0B nn and PCH keywords. As above, the nn value determines the type of multiplexer, and the PCH keyword assigns a parity channel number ppp or defaults to ddd + 1. Also, range provisioning of this type of channel is not allowed.

Subrate established channels are marked automatically as red circuits. This results in the need to specify the INCL keyword in the RMV NPC command whenever a facility terminating NPC carrying Subrate channels is removed.

Also, the Subrate establish channel command has no effect on the customer controlled marking status of DACS II channels that previously have been marked with the CUS keyword. The CUS marking is disabled while the channel is established to the Subrate feature, but is enabled again once the channel is disestablished.

**Note:** When all 24 channels of an NPC using D4 superframe are established as DS0B channels, a yellow CGA can be declared for the NPC, even though there is no failure, if either of the following conditions exists:

1. The DS1 signal is looped at the DSX-1 and the mux out of sync (MOS) code is transmitted on all channels.
2. The far end is transmitting the MOS code on all 24 channels.

When all 24 channels are receiving MOS, the D4 superframe yellow alarm signal is simulated thus causing the CGA to be declared.

## **Command**

---

### **Nonhierarchical**

---

[I.19101]

```
SECH:FRM xy,SEQ ww:TO [s]abcddd[-eee],{DS0A rr|DS0B nn}\  
[, {SEC|PCH[ ppp]}}!
```

### **Hierarchical**

---

[I.19101]

```
SECH:FRM xy,SEQ ww:TO uvmnpddd[-eee],{DS0A rr|DS0B nn}\  
[, {SEC|PCH[ ppp]}}!
```

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.19101]

M hh:mm:ss xy,ww n[vv] SECH [s]abcddd[-eee] {DS0A rr|DS0B nn}\  
[ {SEC|PCH ppp}] COMPL

#### **Hierarchical**

---

[O.19101]

M hh:mm:ss xy,ww n[vv] SECH uvmpdddd[-eee] {DS0A rr|DS0B nn}\  
[ {SEC|PCH ppp}] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.19101.01]

M hh:mm:ss xy,ww n[vv] SECH [s]abcddd[-eee] {DS0A rr|DS0B nn}\  
[ {SEC|PCH[ ppp]}}[ qq] 2 LN MSG:  
<reason> DNY

#### **Hierarchical**

---

[O.19101.01]

M hh:mm:ss xy,ww n[vv] SECH uvmpdddd[-eee] {DS0A rr|DS0B nn}\  
[ {SEC|PCH[ ppp]}}[ qq] 2 LN MSG:  
<reason> DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**T0** - To

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number  
**eee** - Channel number for end of range specified

Channel numbers

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**DS0A** - Digital signal 0A

**rr** - DS0A channel rate (24, 48, 96, or 56)

The established channel is a DS0A type, that is, a single customer signal at rate rr.

**DS0B** - Digital signal 0B

**nn** - Number of DS0B subrate customer channels (05, 10, or 20)

The established channel is connected to a subrate multiplexer capable of multiplexing nn customers.



**SEC** - Subrate error correction

Subrate error correction is performed on the established channel. SEC cannot be used for either a DS0A or DS0B channel without error correction.

**PCH** - Parity channel

Parity error correction is performed on this channel. PCH cannot be used for either a DS0A or DS0B channel without error correction.

The SEC and PCH fields are present only if specified in the input command.

**ppp** - Parity channel number

Specifies the associated parity channel number. If not specified in the input command, this number defaults to the channel number + 1 (ddd + 1).

**qqq** - Channel number involved in the denial (ddd through eee)

**reason** - Reason for denial

If a denial pertains to a particular channel in a range, the channel number is given in the optional qqq field. The user should note that *none* of the preceding channels in a range are completed if a problem is found, and subsequent channels may or may not have additional problems.

reason

SPECIFIED DIGROUP DOES NOT SUPPORT SUBRATE CHANNELS  
CHANNEL dd IS OUT OF RANGE FOR NPC TYPE SPECIFIED  
CHANNEL [s]abcddd IS A TEST GROUP CHANNEL  
PARITY CHANNEL [s]abcddd IS A TEST GROUP CHANNEL  
SPECIFIED CHANNEL IS A TEST PORT  
SPECIFIED CHANNEL IS ALREADY ASSIGNED  
SPECIFIED CHANNEL IS UNDER TEST  
SPECIFIED PARITY CHANNEL IS A TEST PORT  
SPECIFIED PARITY CHANNEL IS ALREADY ASSIGNED  
SPECIFIED PARITY CHANNEL IS UNDER TEST  
SPECIFIED PARITY CHANNEL IS ALREADY SPECIFIED AS DATA CHANNEL  
PARITY CHANNEL NUMBER IS OUT OF RANGE  
SUBRATE ERROR CORRECTION NOT ALLOWED WITH RATE 56  
PARITY CHANNEL ERROR CORRECTION NOT ALLOWED FOR 24, 48, OR 96  
RATES  
PCH KEYWORD NOT ALLOWED WITH RANGE CROSS-CONNECTS  
CONNECTION EXCEEDS REMAINING SRM CAPACITY  
ERROR CORRECTION CAPACITY UNAVAILABLE ON DESIRED TYPE SUBRATE  
PACK

ACTIVE CROSS-CONNECT NETWORK SIDE IS FAILED  
SPECIFIED NPC IS UNEQUIPPED  
SPECIFIED NPC IS OUT-OF-SERVICE  
SPECIFIED NPC IS FAILED  
REQUIRED UNIT NOT EQUIPPED, NOT IN SERVICE, OR FAILED

REQUIRED CCB NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED TSI NOT EQUIPPED, NOT IN SERVICE, OR FAILED

REQUIRED ETSI NOT EQUIPPED, NOT IN SERVICE, OR FAILED

REQUIRED FTMI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED FC NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED DSPI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED SRM NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED SUBRATE PACK NOT EQUIPPED, NOT IN SERVICE, OR FAILED

UNIT [q]q MXR c NOT EQUIPPED

IDNV Input, data not valid

CHANNEL [s]abc-ddd IS A TEST GROUP CHANNEL  
PARITY CHANNEL [s]abc-ddd IS A TEST GROUP CHANNEL

SAAS Status, already assigned

Termination is in process of being rolled

UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE

UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED

| st   | d       | Explanation                   |
|------|---------|-------------------------------|
| ROLL | {F T B} | Circuit is involved in a roll |

## **SECH,TO,RATE,DP,PCH**

### **SUBRATE ESTABLISH CHANNEL**

#### **Explanation Of Command**

This message connects a channel or a range of channels in a given digroup to the subrate feature. When connected to the subrate feature, the channel is provided with test access capability using the STST commands and, if specified, a subrate multiplexer and/or an error correction function.

#### **Command**

##### **Nonhierarchical**

[I.19111]

SECH:FRM xy,SEQ ww:TO [s]abcddd[-eee],RATE rr[,DP]\  
[,PCH[ ppp]]!

##### **Hierarchical**

[I.19111]

SECH:FRM xy,SEQ ww:TO uvmnpddd[-eee],RATE rr[,DP]\  
[,PCH[ ppp]]!

#### **Completion Message**

##### **Nonhierarchical**

[O.19111]

M hh:mm:ss xy,ww n[vv] SECH [s]abcddd[-eee] RATE rr [DP ]\  
[PCH ppp ] COMPL

### **Hierarchical**

---

[O.19111]

M hh:mm:ss xy,ww n[vv] SECH uvmnpddd[-eee] RATE rr [DP ]\  
[PCH ppp ] COMPL

### **Denial Message**

---

### **Nonhierarchical**

---

[O.19111.01]

M hh:mm:ss xy,ww n[vv] SECH [s]abcdddd[-eee] RATE rr[ DP]\  
[ PCH[ ppp]][ qq] 2 LN MSG:  
<reason> DNY

### **Hierarchical**

---

[O.19111.01]

M hh:mm:ss xy,ww n[vv] SECH uvmnpddd[-eee] RATE rr[ DP]\  
[ PCH[ ppp]][ qq] 2 LN MSG:  
<reason> DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

A channel must be established before any cross-connections can be made.

This command is used to establish five different types of channels as follows:

1. A DS0B channel capable of multiplexing 5, 10, or 20 subrate customers.
2. A 56-kb/s channel without error correction.
3. A subrate DS0A channel with subrate dataport error correction.
4. A 56-kb/s channel with parity channel error correction. (This type of error correction is also commonly referred to as "56-kb/s dataport" error correction.)
5. A DS0B channel capable of multiplexing 5, 10, or 20 subrate customers and parity channel error correction.

When a channel (or range of channels) is established, it (they) cannot be already established, cross-connected, or under test access. All channels within a specified range are established with the same parameters.

#### DS0B Channels (Without Error Correction)

A DS0B channel is established by specifying a digroup and channel and the RATE rr field. The DP and PCH fields must not be present for this type of channel. The RATE rr field defines the number of customer channels and the maximum customer rate of the subrate multiplexer as follows:

**rr** - Subrate multiplexer rate

| <i>rr</i> | <i>Explanation</i>                  |
|-----------|-------------------------------------|
| 24        | 20 - 2.4-kb/s customers             |
| 48        | 10 - 2.4- or 4.8-kb/s customers     |
| 96        | 5 - 2.4, 4.8, or 9.6-kb/s customers |

As indicated in the table above, a mix of customer rates can be cross- connected provided the maximum rate for each type of subrate multiplexer is not exceeded. 56-kb/s Channels Without Error Correction

A 56-kb/s DS0A channel without error correction is established by specifying a digroup and channel and RATE 56. The DP keyword is also allowed if desired, but otherwise is ignored by the system. The PCH keyword must not be present. This type of channel actually can be operated at any DDS rate since the Subrate performs no rate-sensitive processing on it. The user must ensure, however, that any subsequent cross-connections to other Subrate channels are compatible with the rate actually present in the channel. For example, when the channel actually carries a 4.8-kb/s byte-stuffed DS0A, the user may connect it to a 10-channel multiplexer or to a 20-channel multiplexer. In both cases, the command is allowed, but only the connection to the 10- channel multiplexer will provide error-free transmission.

#### DS0A Channels With Subrate Error Correction

A subrate DS0A channel with subrate error correction is established by specifying an rr value of 24, 48, or 96, and the DP keyword. Subrate error correction performs a majority vote among the repeated bytes inherent in the byte-stuffed subrate DS0A signal to determine the corrected data. An rr value of 56 is not allowed, and the PCH keyword must not be present in specifying this type of channel.

#### 56-kb/s Channels With Error Correction

A 56-kb/s channel with parity channel error correction is established by specifying an rr value of 56 and both the DP and PCH keywords. This command has the effect of establishing two channels, one for carrying the customer data and one for carrying parity error correction information. If no parity channel number (ppp) is specified, the parity channel is assigned automatically to the next higher numbered channel from the data channel (ddd + 1). Due to the need to assign parity channels, range provisioning of 56-kb/s

channels with error correction is not allowed.

#### DS0B Channels With Error Correction

A DS0B channel that also has parity channel error correction performed on it is established by specifying a RATE of 24, 48, or 96, corresponding to 20, 10, or 5 channel multiplexers, respectively, and the DP and PCH keywords. As above, if no parity channel number (ppp) is specified, the parity channel is assigned to ddd + 1. Also, no range provisioning of this type of channel is allowed.

Subrate established channels are marked automatically as red circuits. This results in the need to specify the **INCL** keyword in the RMV NPC command whenever a facility terminating NPC carrying Subrate channels is removed.

Also, the Subrate establish channel command has no effect on the customer control marking status of DACS II channels that previously have been marked with the **CUS** keyword. The **CUS** marking is disabled while the channel is established to the Subrate feature, but is returned once the channel is disestablished.

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |



| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number

**eee** - Channel number for end of range specified

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

The channel is now ready for Subrate cross-connection. Optional field **eee** appears if the input message requested the establishment of a range of channels.

The **RATE rr** field specifies the channel rate. If the optional **DP** and **PCH** fields are not present and rr = 24, 48, or 96, the established channel is connected to a subrate multiplexer capable of multiplexing 20, 10, or 5 customers, respectively. If rr = 56 and the optional fields are not present, the established channel is a DS0A type, i.e., a single customer signal without error correction.

When the optional **DP** field is present and rr = 24, 48, or 96, the established channel is a DS0A type with subrate error correction. If both **DP** and **PCH** fields are present and rr = 24, 48, or 96, the established channel is connected to a subrate multiplexer capable of multiplexing 20, 10, or 5 customers, respectively, and has parity channel error correction.

An **rr** value of 56 in combination with both **DP** and **PCH** fields indicate a 56 kb/s DS0A channel with parity channel error correction.

The **ppp** field specifies the parity channel number associated with the parity channel error correction function. If not specified in the input command, this number is defaulted to ddd + 1.

**qqq** - Channel number involved in the denial ( $ddd \leq qqq \leq eee$ )

**rr** - Channel rate (24, 48, 96, or 56)

**ppp** - Number of parity error correction channel

If the reason for denial pertains to a particular channel in a range, the channel number is given in the optional **qqq** field. The user should note that *none* of the preceding channels in the range are completed if a problem is found, and subsequent channels may or may not have additional problems.

The optional **DP** and **PCH** **ppp** fields indicate subrate and parity channel error correction, respectively. These fields are present only if specified in the input command.

**reason** - reason for denial

### Input Errors

*reason*

SPECIFIED DIGROUP DOES NOT SUPPORT SUBRATE CHANNELS  
CHANNEL dd IS OUT OF RANGE FOR NPC TYPE SPECIFIED  
CHANNEL [s]abcdddd IS A TEST GROUP CHANNEL  
PARITY CHANNEL [s]abcdddd IS A TEST GROUP CHANNEL  
SPECIFIED CHANNEL IS A TEST PORT  
SPECIFIED CHANNEL IS ALREADY ASSIGNED  
SPECIFIED CHANNEL IS UNDER TEST  
SPECIFIED PARITY CHANNEL IS A TEST PORT  
SPECIFIED PARITY CHANNEL IS ALREADY ASSIGNED  
SPECIFIED PARITY CHANNEL IS UNDER TEST  
SPECIFIED PARITY CHANNEL IS ALREADY SPECIFIED AS DATA CHANNEL  
PARITY CHANNEL NUMBER IS OUT OF RANGE  
DP KEYWORD WITHOUT PCH KEYWORD NOT ALLOWED WITH RATE 56  
PCH KEYWORD WITHOUT DP KEYWORD NOT ALLOWED  
PCH KEYWORD NOT ALLOWED FOR RANGE CROSS-CONNECTS  
CONNECTION EXCEEDS REMAINING SRM CAPACITY  
ERROR CORRECTION CAPACITY UNAVAILABLE ON DESIRED TYPE SUBRATE PACK

## **Maintenance Conditions**

### *reason*

ACTIVE CROSS-CONNECT NETWORK SIDE IS FAILED  
SPECIFIED NPC IS UNEQUIPPED  
SPECIFIED NPC IS OUT-OF-SERVICE  
SPECIFIED NPC IS FAILED  
REQUIRED UNIT NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED CCB NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED TSI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED ETSI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED FTMI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED FC NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED DSPI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED SRM NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED SUBRATE PACK NOT EQUIPPED, NOT IN SERVICE, OR FAILED

## **Error condition code for DS3U**

### *reason*

UNIT [q]q MXR c NOT EQUIPPED

CHANNEL [s]abc-ddd IS A TEST GROUP CHANNEL  
PARITY CHANNEL [s]abc-ddd IS A TEST GROUP CHANNEL

UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE

UNIT [q]q FMT s IS FAILED  
UNIT [q]q FLI k IS FAILED  
UNIT [q]q MIU c IS FAILED  
UNIT [q]q MXR c IS FAILED

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## SCNT — SW

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This section documents the commands **SCNT** through **SW**.

## **SCNT,RATE,MPTM,MJU,MA**

### **SUBRATE TERMINATED CROSS-CONNECTION**

#### **Explanation Of Command**

This command performs a subrate terminated multipoint cross-connection of **MJU ssss**.

The master leg of the multipoint circuit (MPTM) is specified by digroup **abc**, channel **ddd**, and customer number **ff**, and serves as the reference for addressing all MJUs and branches in the circuit.

The command inserts the Unassigned multiplexer channel (UMC) code towards both the upstream (MJU) and downstream (branch facility) directions of the cross-connected branch. If a digroup and channel of a customer to be connected to a branch is error corrected, termination takes place after error correction is performed. If no branch field appears in the command, it is denied since there is nothing to terminate.

MJU control legs are not terminated with this command. This includes the control leg of MJU 0001 that is connected to the multipoint master. MJU control legs can be terminated using the STST command. By not terminating control legs, the user can set up a circuit using a mixture of SCNT commands (to connect to terminated branches) and SCON commands (to connect to unterminated or active branches). Also, by not terminating the multipoint master and MJU control legs, transmission to and from the active (not terminated) customers is always preserved.

All channels [s]abcddd and [t]ghijj must be established before they can be cross-connected with SCNT.

#### **Command**

#### **Nonhierarchical**

[I.19321]

```
SCNT:FRM xy,SEQ ww:[RATE rr,]MPTM [s]abcddd[/ff],MJU ssss\  
[,MA(tttt,u)],<branch>[,<branch>][,<branch>][,<branch>]!
```



### **Hierarchical**

---

[I.19321]

SCNT:FRM xy,SEQ ww:[RATE rr,]MPTM uvmnpddd[/ff],MJU ssss\  
[,MA(tttt,u)],<branch>[,<branch>][,<branch>][,<branch>]!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.19321]

M hh:mm:ss xy,ww n[vv] SCNT RATE rr MPTM [s]abcdddd/ff \  
MJU ssss 4 LN MSG:  
[MA tttt,u ]<branch>[ <branch>][ <branch>][ <branch>]  
NEW MJU ssss MA {tttt,u|MPTM} s BR1 <data> s BR2 <data> s  
BR3 <data> s BR4 <data> s \  
COMPL

### **Hierarchical**

---

[O.19321]

M hh:mm:ss xy,ww n[vv] SCNT RATE rr MPTM uvmnpddd/ff \  
MJU ssss 4 LN MSG:  
[MA tttt,u ]<branch>[ <branch>][ <branch>][ <branch>]  
NEW MJU ssss MA {tttt,u|MPTM} s BR1 <data> s BR2 <data> s  
BR3 <data> s BR4 <data> s \  
COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.19321.01]

M hh:mm:ss xy,ww n[vv] SCNT RATE rr MPTM [s]abcdddd/ff \  
MJU ssss 3 LN MSG:  
[MA tttt,u ]<branch>[ <branch>][ <branch>][ <branch>]  
<reason> DNY

## Hierarchical

[O.19321.01]

M hh:mm:ss xy,ww n[vv] SCNT RATE rr MPTM uvmnpddd/ff \  
MJU ssss 3 LN MSG:  
[MA tttt,u ]<branch>[ <branch>][ <branch>][ <branch>]  
<reason> DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**RATE** - Rate

**rr** - Circuit rate specification (24, 48, 96, or 56)

*rr*      *Rate*

|    |                           |
|----|---------------------------|
| 24 | 2.4 kilobit/second (kb/s) |
| 48 | 4.8 kb/s                  |
| 96 | 9.6 kb/s                  |
| 56 | 56 kb/s                   |

**MPTM** - Multipoint Master

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number of the multipoint circuit master leg

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

|                              |                              |                              |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number of the multipoint circuit master leg

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM channel number of the multipoint circuit master leg

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - FROM customer number of the multipoint circuit master leg

|       |                                     |
|-------|-------------------------------------|
| 01    | (DS0A at 2.4, 4.8, 9.6, or 56 kb/s) |
| 01-20 | (DS0B at 2.4 kb/s)                  |
| 01-10 | (DS0B at 4.8 kb/s)                  |
| 01-05 | (DS0B at 9.6 kb/s)                  |

**NEW** - New

**MJU** - Multipoint junction unit

**ssss** - MJU number of cross-connected MJU (0001-9999)

This command cross-connects MJU ssss to MJU tttt.

**s** - Termination state of the MJU control or branch leg

Indicates whether either or both ends of the cross-connection are in the terminate and leave state. The "TO" direction is defined as the direction facing the MJU.

| <i>s</i> | <i>Explanation</i>                   |
|----------|--------------------------------------|
| R        | RELEASED. Neither side is terminated |
| F        | FROM side is terminated              |
| T        | TO side is terminated                |
| B        | BOTH sides are terminated            |

**BR1** - Branch 1

**BR2** - Branch 2

**BR3** - Branch 3

**BR4** - Branch 4

**MA** - Master

**tttt** - MJU number (0001 through 9999)

**u** - Branch number (1 through 4)

MA, tttt, and u specify an MJU to MJU connection. MJU tttt branch u is connected to the control leg of MJU ssss.

**branch** - External facility terminations for branches connected to MJU ssss.

The branch listed in the branch field is connected to the external facility termination, and is left in the terminate and leave state in both directions of transmission. The NEW MJU fields list the resulting cross-connection and terminate and leave status for all connections associated with MJU ssss. Note that the control leg and other branches not named in the SCNT command may be in any of the possible terminate and leave states as a result of previous cross-connect, change, or test access commands.

*branch*

BRI [t]ghijj[/II]

BR - Branch

i - Branch number of MJU ssss (1 through 4)

[t]ghijj[/II] - External facility termination of added branch

[t]ghi - The 3- or 4-digit nonhierarchical NPC number of termination connected to BRI.

For valid values see [s]abc above.

jij - Channel number of termination connected to BRI.

For valid values see ddd above.

II - Customer number of termination connected to BRI

For valid values see ff above.

**data** - Branch connection data

| <i>data</i> | <i>Explanation</i> |
|-------------|--------------------|
|-------------|--------------------|

|              |                   |
|--------------|-------------------|
| [0]000000/00 | Unassigned branch |
|--------------|-------------------|

|          |                                                   |
|----------|---------------------------------------------------|
| MJU-nnnn | Branch connected to MJU nnnn (0002 through 9999). |
|----------|---------------------------------------------------|

**reason** - Reason for denial

reason

CHANNEL [s]abcddd IS A PARITY CHANNEL  
CUSTOMER NUMBER MUST BE SPECIFIED FOR DS-0B CHANNEL [s]abcddd  
CHANNEL [s]abcddd WITH SUBRATE ERROR CORRECTION AND RATE 56 NOT  
ALLOWED

CHANNEL [s]abcddd SUBRATE MULTIPLEXER RATE CANNOT SUPPORT  
CIRCUIT RATE

CHANNEL [s]abcddd/ff IS CONNECTED BUT NOT AS A MULTIPOINT MASTER  
LEG

CHANNEL [s]abcddd/ff IS SPECIFIED MORE THAN ONCE  
INVALID CHANNEL NUMBER FOR CHANNEL [s]abcddd

SPECIFIED RATE DOES NOT MATCH EXISTING CIRCUIT RATE  
MJU 1 MUST BE SPECIFIED AS THE MULTIPOINT MASTER LEG MJU  
CIRCUIT RATE MUST BE SPECIFIED  
MA FIELD MUST BE SPECIFIED FOR A NEW MJU  
MA FIELD MUST MATCH CIRCUIT  
MA FIELD NOT ALLOWED WHEN MJU 1 IS SPECIFIED  
MJU NAMED IN MJU AND MA FIELDS CANNOT BE THE SAME  
UPSTREAM BRANCH SPECIFIED IN MA FIELD IS ASSIGNED  
UPSTREAM BRANCH SPECIFIED IN MA FIELD DOES NOT EXIST

CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS-0A CHANNEL [s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS-0B CHANNEL [s]abcddd  
CHANNEL [s]abcddd IS OUT OF RANGE

CHANNEL [s]abcddd/ff IS ASSIGNED

BR i IS ALREADY ASSIGNED TO ANOTHER CHANNEL OR MJU  
BR i IS SPECIFIED MORE THAN ONCE

CHANNEL [s]abcddd IS NOT ESTABLISHED TO SUBRATE FEATURE  
CIRCUIT IS UNDER TEST

CHANNEL [s]abcddd/ff IS UNDER TEST

NPC [X]abc IS NOT PROVISIONED AS DIGROUP-A OF AN RT  
DIGROUP-B ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS  
NOT PROVISIONED

DIGROUP-C ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS  
NOT PROVISIONED

DIGROUP-D ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS  
NOT PROVISIONED

NPC [s]abc IS IN LINE LOOPBACK STATE

Maintenance Conditions

UNIT [q]q IS NOT FACILITY TERMINATING TYPE

TSI sft IS NOT EQUIPPED  
CCB sf IS NOT EQUIPPED  
ETSI sqq IS NOT EQUIPPED  
UNIT [q]q IS NOT EQUIPPED  
UNIT [q]q FTMI d IS NOT EQUIPPED  
UNIT [q]q FC sb IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED  
UNIT [q]q MXR c NOT EQUIPPED

CCNI s IS OUT-OF-SERVICE  
TSI sft IS OUT-OF-SERVICE  
CCB sf IS OUT-OF-SERVICE  
CCI s IS OUT-OF-SERVICE  
ETSI sqq IS OUT-OF-SERVICE  
UNIT [q]q IS OUT-OF-SERVICE  
UNIT [q]q FTMI d IS OUT-OF-SERVICE  
UNIT [q]q FC sb IS NOT EQUIPPED  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
NPC [s]abc IS OUT-OF-SERVICE  
NPC [s]abc SIDE s IS OUT-OF-SERVICE  
UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE

MAINTENANCE CONDITION PREVENTS COMPLETION OF THIS COMMAND  
ACTIVE CCN SIDE IS PESTED

CCNI s IS FAILED  
TSI sft IS FAILED  
CCB sf IS FAILED  
CCI s IS FAILED  
ETSI sqq IS FAILED  
UNIT [q]q IS FAILED  
UNIT [q]q FTMI d IS FAILED  
UNIT [q]q FC sb IS FAILED  
DSPI IN UNIT [q]q IS FAILED  
NPC [s]abc IS FAILED  
NPC [s]abc SIDE s IS FAILED  
UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED



## **SCNT,RATE,TPT,FROM,TO**

### **SUBRATE TERMINATED CROSS-CONNECTION**

#### **Explanation Of Command**

This command performs a terminated cross-connection of the FROM and TO subrate customers in both directions. The customer number fields are optional for DS-0A terminations. If not specified, the default value is 01.

#### **Command**

##### **Nonhierarchical**

[I.19301]

```
SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM [s]abcddd[/ff],\  
TO [t]ghijjj[/ll]!
```

##### **Hierarchical**

[I.19301]

```
SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM uvmnpddd[/ff],\  
TO wxkqrjjj[/ll]!
```

#### **Completion Message**

##### **Nonhierarchical**

[O.19301]

```
M hh:mm:ss xy,ww n[vv] SCNT RATE rr [s]abcddd/ff \  
[t]ghijjj/ll COMPL
```

## **Hierarchical**

---

[O.19301]

M hh:mm:ss xy,ww n[vv] SCNT RATE rr uvmnpddd/ff wxkqrjjj/ll \  
COMPL

## **Denial Message**

---

## **Nonhierarchical**

---

[O.19301.01]

M hh:mm:ss xy,ww n[vv] SCNT RATE rr FROM [s]abcdddd/ff \  
TO [t]ghijjj/ll 2 LN MSG:  
<reason> DNY

## **Hierarchical**

---

[O.19301.01]

M hh:mm:ss xy,ww n[vv] SCNT RATE rr FROM uvmnpddd/ff \  
TO wxkqrjjj/ll 2 LN MSG:  
<reason> DNY

## **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

---

**RATE** - Rate

rr Circuit rate specification (24, 48, 96, or 56)

rr Rate

24 2.4 kilobit/second (kb/s)

48 4.8 kb/s

96 9.6 kb/s

56 56 kb/s

**TPT** - Two-Point

Retained only for DACS/SRDC compatibility.

**FROM** - From

**TO** - To

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number

**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |

| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |

| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |

| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM channel number  
**jjj** - TO channel number

001-024 (Domestic)

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - FROM customer number  
**ll** - TO customer number

|       |                                     |
|-------|-------------------------------------|
| 01    | (DS0A at 2.4, 4.8, 9.6, or 56 kb/s) |
| 01-20 | (DS0B at 2.4 kb/s)                  |
| 01-10 | (DS0B at 4.8 kb/s)                  |
| 01-05 | (DS0B at 9.6 kb/s)                  |

If [s]abctddd or [t]ghijj is an error corrected channel, termination is performed after error correction is done. Also, this command does not allow the FROM and TO customers to be the same (that is, a looped connection), nor does it allow the use of a semi-colon in place of a comma after the TPT keyword. Both directions of the circuit are terminated with insertion of the Unassigned Multiplexer Channel (UMC) control code.

**reason** - Reason for denial

Input Errors

*reason*

CHANNEL [s]abctddd IS A PARITY CHANNEL  
CUSTOMER NUMBER MUST BE SPECIFIED FOR DS0B CHANNEL [s]abctddd  
CHANNEL [s]abctddd WITH SR ERROR CORRECTION AND RATE 56 NOT ALLOWED  
CHANNEL [s]abctddd SR MULTIPLEXER RATE CANNOT SUPPORT CIRCUIT RATE  
CUSTOMER NUMBER RANGE NOT ALLOWED FOR DS0A CHANNEL [s]abctddd  
CHANNEL RANGE NOT ALLOWED FOR DS0B CHANNEL [s]abctddd  
FROM AND TO RANGES ARE NOT THE SAME SIZE  
FROM AND TO RANGES PARTIALLY OVERLAP  
INVALID CHANNEL NUMBER FOR CHANNEL [s]abctddd  
CHANNEL [s]abctddd/ff IS SPECIFIED MORE THAN ONCE  
CHANNEL [s]abctddd/ff IS CONNECTED BUT NOT AS A MULTIPOINT MASTER LEG  
SPECIFIED RATE DOES NOT MATCH EXISTING CIRCUIT RATE  
MJU 1 MUST BE SPECIFIED AS THE MULTIPOINT MASTER LEG MJU  
CIRCUIT RATE MUST BE SPECIFIED  
MA FIELD MUST BE SPECIFIED FOR A NEW MJU  
MA FIELD MUST MATCH CIRCUIT  
UPSTREAM BRANCH SPECIFIED IN MA FIELD IS ASSIGNED  
UPSTREAM BRANCH SPECIFIED IN MA FIELD DOES NOT EXIST  
BR i IS SPECIFIED MORE THAN ONCE  
MA FIELD NOT ALLOWED WHEN MJU 1 IS SPECIFIED  
MJU NAMES IN MJU AND MA FIELDS CANNOT BE THE SAME  
SCNT CANNOT BE SPECIFIED FOR A LOOPED CIRCUIT  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0A CHANNEL [s]abctddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0B CHANNEL [s]abctddd  
CHANNEL [s]abctddd IS OUT OF RANGE  
[s]abctddd-ff IS AN INVALID RANGE OF CHANNELS  
CHANNEL [s]abctddd/ff IS ASSIGNED  
BR i IS ALREADY ASSIGNED TO ANOTHER CHANNEL OR MJU  
MJU ssss ALREADY EXISTS IN THE CIRCUIT  
CHANNEL [s]abctddd IS NOT ESTABLISHED TO SR FEATURE  
CHANNEL [s]abctddd/ff IS UNDER TEST  
NPC [s]abc IS NOT PROVISIONED AS DIGROUP-A OF AN RT  
THE NPC ASSOCIATED WITH VIRTUAL CHANNEL [s]abctddd IS NOT PROVISIONED  
NPC [s]abc IS IN LINE LOOPBACK STATE  
CIRCUIT IS UNDER TEST

Maintenance Conditions

*reason*

UNIT [q]q IS NOT FACILITY TERMINATING TYPE  
NO DSPU IS EQUIPPED  
NO SRM TYPE NPC IS EQUIPPED  
NO MJU TYPE NPC IS EQUIPPED  
TSI sft IS NOT EQUIPPED  
CCB sf IS NOT EQUIPPED  
ETSI sqq IS NOT EQUIPPED  
UNIT [q]q IS NOT EQUIPPED  
UNIT [q]q FTMI d IS NOT EQUIPPED  
UNIT [q]q FC s IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED  
UNIT [q]q MXR c NOT EQUIPPED  
CONNECTION EXCEEDS REMAINING EC CAPACITY  
BOTH CCN SIDES ARE OUT-OF-SERVICE  
INACTIVE CCN SIDE IN-SERVICE AND NPC ON INACTIVE SIDE IS OOS  
ACTIVE CCN SIDE IS OUT-OF-SERVICE  
CCNI s IS OUT-OF-SERVICE  
TSI sft IS OUT-OF-SERVICE  
CCB sf IS OUT-OF-SERVICE  
CCI s IS OUT-OF-SERVICE  
ETSI sqq IS OUT-OF-SERVICE  
UNIT [q]q IS OUT-OF-SERVICE  
UNIT [q]q FTMI d IS OUT-OF-SERVICE  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
NPC [s]abc IS OUT-OF-SERVICE  
NPC [s]abc SIDE s IS OUT-OF-SERVICE  
UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE  
ACTIVE CCN SIDE IS PESTED  
MAINTENANCE CONDITION PREVENTS COMPLETION OF THIS COMMAND  
ACTIVE CCN SIDE IS FAILED  
CCNI s IS FAILED  
TSI sft IS FAILED  
CCB sf IS FAILED  
CCI s IS FAILED  
ETSI sqq IS FAILED  
UNIT [q]q IS FAILED  
UNIT [q]q FTMI d IS FAILED  
UNIT [q]q FC sb IS FAILED  
DSPI IN UNIT [q]q IS FAILED  
NPC [s]abc IS FAILED

NPC [s]abc SIDE s IS FAILED  
UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED

| st   | d       | Explanation                   |
|------|---------|-------------------------------|
| ROLL | {F T B} | Circuit is involved in a roll |



## **SCNT,RATE,TPT,FROM,TO**

### **SUBRATE TERMINATED CROSS-CONNECTION**

#### **Explanation Of Command**

This command performs a terminated cross-connection of the **FROM** and **TO** customers in both directions.

#### **Command**

#### **Nonhierarchical**

USAGE: The following applies to a range of DS-0A channels:

[l.19311]

```
SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM [s]abcd-dd-eee[/01],\  
TO [t]ghijjj-kkk[/01]!
```

USAGE: The following applies to a range of DS-0B channels:

[l.19311]

```
SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM [s]abcd-dd/ff-mm,\  
TO [t]ghijjj/ll-nn!
```

#### **Hierarchical**

USAGE: The following applies to a range of DS-0A channels:

[l.19311]

```
SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM uvmp-ddd-eee[/01],\  
TO wxkqrjjj-kkk[/01]!
```

USAGE: The following applies to a range of DS-0B channels:

[I.19311]

**SCNT:FRM xy,SEQ ww:RATE rr[,TPT],FROM uvmnpddd/ff-mm,\  
TO wxkqrjjj/ll-nn!**

### **Completion Message**

---

#### **Nonhierarchical**

---

USAGE: The following applies to a range of DS-0A channels:

[O.19311]

**M hh:mm:ss xy,ww n[vv] SCNT RATE rr [s]abcd-dd-eee[/01] \  
[t]ghijjj-kkk[/01] COMPL**

USAGE: The following applies to a range of DS-0B channels:

[O.19311]

**M hh:mm:ss xy,ww n[vv] SCNT RATE rr [s]abcd-dd/ff-mm \  
[t]ghijjj/ll-nn COMPL**

#### **Hierarchical**

---

USAGE: The following applies to a range of DS-0A channels:

[O.19311]

**M hh:mm:ss xy,ww n[vv] SCNT RATE rr uvmnpddd-eee[/01] \  
wxkqrjjj-kkk[/01] COMPL**

USAGE: The following applies to a range of DS-0B channels:

[O.19311]

**M hh:mm:ss xy,ww n[vv] SCNT RATE rr uvmnpddd/ff-mm \  
wxkqrjjj/ll-nn COMPL**

## **Denial Message**

---

### **Nonhierarchical**

---

USAGE: The following applies to a range of DS-0A channels:

[O.19311.01]

```
M hh:mm:ss xy,ww n[vv] SCNT RATE rr FROM [s]abcd-dd-eee[/01] \
3 LN MSG:
TO [t]ghijjj-kkk[/01] ppp/pp,qqq/qq
<reason> DNY
```

USAGE: The following applies to a range of DS-0B channels:

[O.19311.01]

```
M hh:mm:ss xy,ww n[vv] SCNT RATE rr FROM [s]abcd-dd/ff-mm \
3 LN MSG:
TO [t]ghijjj/ll-nn ppp/pp,qqq/qq
<reason> DNY
```

### **Hierarchical**

---

USAGE: The following applies to a range of DS-0A channels:

[O.19311.01]

```
M hh:mm:ss xy,ww n[vv] SCNT RATE rr FROM uvmnpddd-eee[/01] \
3 LN MSG:
TO wxqrrjjj-kkk[/01] ppp/pp,qqq/qq
<reason> DNY
```

USAGE: The following applies to a range of DS-0B channels:

[O.19311.01]

```
M hh:mm:ss xy,ww n[vv] SCNT RATE rr FROM uvmnpddd/ff-mm \
3 LN MSG:
TO wxqrrjjj/ff-nn ppp/pp,qqq/qq
<reason> DNY
```

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**rr** - Circuit rate (24, 48, 96 or 56)

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number

**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**uv,wx** - Unit number

**m,k** - Module number

**np,qr** - NPC number within the module

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM channel number  
**eee** - FROM channel number for end of range specified  
**jjj** - TO channel number  
**kkk** - TO channel number for end of range specified

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - FROM customer number  
**mm** - FROM customer number for end of range specified  
**ll** - TO customer number  
**nn** - TO customer number for end of range specified

Customer Number:

|       |                                     |
|-------|-------------------------------------|
| 01    | (DS0A at 2.4, 4.8, 9.6, or 56 kb/s) |
| 01-20 | (DS0B at 2.4 kb/s)                  |
| 01-10 | (DS0B at 4.8 kb/s)                  |
| 01-05 | (DS0B at 9.6 kb/s)                  |

If a digroup and channel in the range is error corrected, termination takes place after error correction is performed. This command does not allow the FROM and TO customers to be the same (that is, a looped connection).

**ppp/pp** - FROM channel number/FROM customer number

ppp FROM channel number  
pp FROM customer number

**qqq/qq** - TO channel number/TO customer number

qqq TO channel number  
qq TO customer number

**reason** - *Reason for denial*  
*reason*

CHANNEL [s]abcddd IS A PARITY CHANNEL  
CUSTOMER NUMBER MUST BE SPECIFIED FOR DS0B  
CHANNEL [s]abcddd  
CHANNEL [s]abcddd WITH SR ERROR CORRECTION AND RATE 56  
NOT ALLOWED  
CHANNEL [s]abcddd SR MULTIPLEXER RATE CANNOT SUPPORT  
CIRCUIT RATE  
CUSTOMER NUMBER RANGE NOT ALLOWED FOR DS0A  
CHANNEL [s]abcddd  
CHANNEL RANGE NOT ALLOWED FOR DS0B CHANNEL [s]abcddd  
INVALID CHANNEL NUMBER FOR CHANNEL [X]XXXXYY  
SCNT CANNOT BE SPECIFIED FOR A LOOPED CIRCUIT  
FROM AND TO RANGES ARE NOT THE SAME SIZE  
FROM AND TO RANGES PARTIALLY OVERLAP

CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0A  
CHANNEL [s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0B  
CHANNEL [s]abcddd  
CHANNEL [s]abcddd IS OUT OF RANGE  
[X]XXXXYY-FFF IS AN INVALID RANGE OF CHANNELS

CHANNEL [s]abcddd/ff IS ASSIGNED

CHANNEL [s]abcddd IS NOT ESTABLISHED TO SR FEATURE  
CHANNEL [s]abcddd/ff IS UNDER TEST  
NPC [X]XXX IS NOT PROVISIONED AS DIGROUP-A OF AN RT  
THE NPC ASSOCIATED WITH VIRTUAL CHANNEL [X]XXXYYY IS NOT  
PROVISIONED  
NPC [X]XXX IS IN LINE LOOPBACK STATE

UNIT [q]q IS NOT FACILITY TERMINATING TYPE

NO DSPU IS EQUIPPED  
NO SRM TYPE NPC IS EQUIPPED  
NO MJU TYPE NPC IS EQUIPPED  
TSI sft IS NOT EQUIPPED  
CCB sf IS NOT EQUIPPED  
ETSI sqq IS NOT EQUIPPED  
UNIT [q]q IS NOT EQUIPPED  
UNIT [q]q FTMI d IS NOT EQUIPPED  
UNIT [q]q FC sb IS NOT EQUIPPED  
DSPI IN UNIT [q]q IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED  
UNIT [q]q MXR c NOT EQUIPPED



CONNECTION EXCEEDS REMAINING EC CAPACITY

BOTH CCN SIDES ARE OUT-OF-SERVICE  
INACTIVE CCN SIDE IN-SERVICE AND NPC ON INACTIVE SIDE  
IS OOS  
ACTIVE CCN SIDE IS OUT-OF-SERVICE  
CCNI s IS OUT-OF-SERVICE  
TSI sft IS OUT-OF-SERVICE  
CCB sf IS OUT-OF-SERVICE  
CCI s IS OUT-OF-SERVICE  
ETSI sqq IS OUT-OF-SERVICE  
UNIT [q]q IS OUT-OF-SERVICE  
UNIT [q]q FTMI d IS OUT-OF-SERVICE  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
NPC [s]abc IS OUT-OF-SERVICE  
NPC [s]abc SIDE s IS OUT-OF-SERVICE  
UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE  
MAINTENANCE CONDITION PREVENTS COMPLETION OF  
THIS COMMAND

ACTIVE CCN SIDE IS FAILED  
CCNI s IS FAILED  
TSI sft IS FAILED  
CCB sf IS FAILED  
CCI s IS FAILED  
ETSI sqq IS FAILED  
UNIT [q]q IS FAILED  
UNIT [q]q FTMI d IS FAILED  
UNIT [q]q FC sb IS FAILED  
DSPI IN UNIT [q]q IS FAILED  
NPC [s]abc IS FAILED  
NPC [s]abc SIDE s IS FAILED  
UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED

ACTIVE CCN SIDE IS PESTED

## **SCON,RATE,MPTM,MJU,MA**

### **SUBRATE CROSS-CONNECTION**

#### **Explanation Of Command**

This command performs a subrate multipoint cross-connection of the specified MJU. The master leg of the multipoint circuit is specified by digroup and channel and customer number, and serves as the reference for addressing all multipoint junction units and branches in the circuit.

All channels ddd and jjj must be established before they can be cross-connected by this command.

Multipoint circuits are built incrementally, one command at a time. Many commands can address the same multipoint circuit. Indeed, many commands can address the same MJU of a circuit. A command addressing an MJU, say MJU 0005, might connect customers to branches 1 and 2. Another command might also address MJU 0005 and connect a customer to branch 3. This command results in no service interruption to branches 1 and 2 that are already connected.

#### **Command**

#### **Nonhierarchical**

[I.19221]

```
SCON:FRM xy,SEQ ww:[RATE rr,]MPTM [s]abcddd[/ff],MJU ssss\  
[,MA(tttt,u)]  
[,<branch>][,<branch>][,<branch>][,<branch>]!
```

### **Hierarchical**

---

[I.19221]

SCON:FRM xy,SEQ ww:[RATE rr,]MPTM uvmnpddd[/ff],MJU ssss\  
[ ,MA(tttt,u)][,<branch>][,<branch>][,<branch>][,<branch>]!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.19221]

M hh:mm:ss xy,ww n[vv] SCON RATE rr MPTM [s]abcdddd/ff \  
MJU ssss e LN MSG:  
[MA tttt,u ][<branch> ][<branch> ][<branch> ][<branch>]  
NEW MJU ssss MA {tttt,u|MPTM} s BR1 <data> s BR2 <data> s  
BR3 <data> s BR4 <data> s \  
COMPL

### **Hierarchical**

---

[O.19221]

M hh:mm:ss xy,ww n[vv] SCON RATE rr MPTM uvmnpddd/ff \  
MJU ssss e LN MSG:  
[MA tttt,u ][<branch> ][<branch> ][<branch> ][<branch>]\  
NEW MJU ssss MA {tttt,u|MPTM} s BR1 <data> s BR2 <data> s

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.19221.01]

M hh:mm:ss xy,ww n[vv] SCON[ RATE rr] MPTM [s]abcdddd/ff \  
MJU ssss e LN MSG:  
[MA tttt,u ][<branch> ][<branch> ][<branch> ][<branch> ]\  
<reason> DNY

## Hierarchical

[O.19221.01]

M hh:mm:ss xy,ww n[vv] SCON[ RATE rr] MPTM uvmnpddd/ff \  
MJU ssss e LN MSG:  
[MA tttt,u ] [<branch> ] [<branch> ] [<branch> ] \  
<reason> DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**RATE** - Rate

**rr** - Transmission rate (24, 48, 96, or 56)

*rr*      *rate in kb/s*

|    |     |
|----|-----|
| 24 | 2.4 |
| 48 | 4.8 |
| 96 | 9.6 |
| 56 | 56  |

rr determines the transmission rate of the customers' cross-connection, and thus, the rate at which the MJU operates. All MJUs in the same circuit must operate at the same rate. The "RATE rr" field must be specified in the first command addressing MJU 0001. "RATE rr" need not be re-specified after it has once been set for MJU 0001. Hence, it is shown as optional. If "RATE rr" is omitted from subsequent commands, any additional MJUs connected will operate at the rate specified for MJU 0001. If "RATE rr" appears in subsequent commands, it will be checked against the rate specified for MJU 0001. If the rates are not the same, the command will be denied.

In addition to assuring that all MJUs in a circuit operate at the same rate, there is an additional check performed on the rate. In circuits that connect customers in DS0B channels, the rate of the MJUs cannot exceed the maximum customer rate of the subrate multiplexers associated with those DS0B channels. The allowed customer numbers used in either the master leg or branch connections depend on the rate of the circuit and the type of DS0B channel associated with each termination, as shown below:

For DS0A channels, rr is checked against the type of error correction previously specified in the SECH command for that channel. Similarly, if the channel has subrate error correction, a circuit rate of 56 is not allowed.

| Circuit<br>Rate | DS0B Type                                      |                                                |                                               |
|-----------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------|
|                 | 20-channel<br>(max. customer<br>rate 2.4 kb/s) | 10-channel<br>(max. customer<br>rate 4.8 kb/s) | 5-channel<br>(max. customer<br>rate 9.6 kb/s) |
| RATE 24         | Cust. #s<br>1-20 Allowed                       | Cust. #s<br>1-10 Allowed                       | Cust. #s<br>1-5 Allowed                       |
| RATE 48         | Denied                                         | Cust. #s<br>1-10 Allowed                       | Cust. #s<br>1-5 Allowed                       |
| RATE 96         | Denied                                         | Denied                                         | Cust. #s<br>1-5 Allowed                       |
| RATE 56         | Denied                                         | Denied                                         | Denied                                        |

**MPTM** - Multipoint master

**[s]abcd**[/ff]

- Termination number

There is exactly one multipoint master for a multipoint circuit. The multipoint master termination number is connected to the control leg of MJU 1. MJU 1 must be the first MJU connected in any circuit. This field uniquely identifies the circuit.

The data sent by this multipoint master is broadcast to all branches on the circuit. The data sent to the multipoint master is a summation of data sent by the branches.

Because the multipoint master is used to uniquely identify the circuit as a whole, it is required for all SCON commands, regardless of which MJU the command addresses (MJU ssss in the message format).

The first time a particular termination number is named in a command as a multipoint master, "MJU ssss" must be specified as "MJU 0001". The system will connect the termination to the control leg of MJU 0001. Subsequently, the multipoint master is included in commands addressing an MJU only to identify the circuit to which the MJU belongs.

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number of the multipoint circuit master leg

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |
| <b>16A-16H</b>               | <b>32A-32H</b>               | <b>48A-48H</b>               | <b>64A-64H</b>               | <b>80A-80H</b>               | <b>96A-96H</b>               |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number of the multipoint circuit master leg

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**MJU** - Multipoint junction unit

**ssss** - MJU number addressed by this command (0001 through 9999)

If the MJU being addressed by the SCON command is 0001 (MJU ssss is MJU 0001) then the field "MA(tttt,u)" must not appear in the command (see the explanation of MA(tttt,u) below).

As previously discussed, it must always be connected to the multipoint master termination. The first time an MJU other than 0001 appears in a command, the command must also contain the MJU connection field.

No MJU can be created with an unconnected control leg.

**MA** - Master

**tttt** - MJU number (1 through 9999)

**u** - Branch number (1 through 4)

The master is also known as the control leg. Every MJU has a control leg. The control leg of MJU 0001 must be connected to the multipoint master. The control leg of an MJU other than 0001 must be connected to a branch of another MJU to form an MJU-to-MJU connection. The field MA(tttt,u) specifies the MJU-to-MJU connection. The control leg of MJU ssss is connected to branch u of MJU tttt.

The first command addressing an MJU in the circuit must address MJU 1. Otherwise, a new MJU of any number can be connected to any existing MJU in the circuit, assuming the new MJU's number is not already used in the circuit and the old MJU has an unconnected branch available to connect to.

The MJU connection field "MA(tttt,u)" specifies where to connect the control leg of MJU ssss. If MJU ssss is addressed in a subsequent SCON command, after a connection for its control leg has been specified, the MJU connection field need not be re-specified. Hence, "MA(tttt,u)" appears as an optional field in the message format. If it is respecified, it will be checked against the actual MJU-to-MJU connection.

It should also be noted that tttt cannot equal ssss. Also, branch u of MJU tttt must not have been previously connected. If it were, it could not be connected to the control leg of MJU ssss.



**branch** - Branch and termination number

*branch termination number*

BRi [t]ghijj[l]

The termination is connected to branch i of MJU ssss.

One branch field is listed for each branch specified in the input command. Since some multipoint SCON input commands do not list any branch data, this line may be absent.

The branch and termination number can appear from zero to four times in a subrate cross-connect command, connecting up to four different customers to the four branches of MJU ssss. The branch fields for the four branches of MJU ssss can appear in any order and any or all branch fields can be omitted. Nothing is connected to branch fields that are omitted from (do not appear in) the command.

Branch fields might be omitted for several reasons. If branches 1 and 2 of MJU ssss were already connected, and the user wished to connect a customer to branch 3 of MJU ssss, then only BR3 and its associated termination number would appear in the command.

Branches 1 and 2 would not appear because they are already connected and branch 4 would not appear because nothing is to be connected to it. Branch 4 might be saved to provide an MJU-to-MJU connection at a later time.

**[t]ghi** - The 3- or 4-digit nonhierarchical NPC number of termination connected to BRi with the same valid values as the master leg.

**jjj** - Channel number of termination connected to BRi with the same valid values as the master leg.

**ll** - Customer number of termination connected to BRi with the same valid values as the master leg.

If the customer is a DS0A customer, ll is optional and if present, must be 01.

**ff** - Customer number of the multipoint circuit master leg (1 through 20)

The customer number is optional when the customer to be connected is in a DS0A signal. This is because there is only one customer in a DS0A signal. If specified, it must appear as 01.

**BR** - Branch

**i** - Branch number (1 through 4)

BRi refers to branch i of MJU ssss, the MJU addressed by this command.

#### Red Circuit and Customer Control Marking

SRDC cross-connections are marked automatically as red circuits. This results in the need to specify the INCL keyword in the RMV,NPC command whenever a facility terminating NPC carrying SRDC circuits is removed. Also, the SCON verb does not affect the customer control marking of a channel. The CUS marking is disabled while the channel is established to the Subrate feature, but is returned once the channel is disestablished.

#### Secondary Channel Capability

This command supports secondary channel capability. Circuits that use DDS secondary channel capability can be assigned to any DS0B channel, provided that the channel's facility terminating NPC was provisioned without zero suppression. If the facility terminating NPC has zero suppression, the user must ensure that secondary channel services are only assigned to the following customers of the given DS0B type:

| DS0B nn | Customer Numbers Compatible with Secondary Channel |
|---------|----------------------------------------------------|
| DS0B 20 | 2,3,6,8,11,12,13,18                                |
| DS0B 10 | 2,3,6,8                                            |
| DS0B 5  | 2,3                                                |

**ddd** - Channel number of the multipoint circuit master leg

001 through 024

001-047 Odd only (SLC 96® Carrier, Mode 3, DGA)  
 049-095 Odd only (SLC 96 Carrier, Mode 3, DGC)  
 001-024 Odd and Even (SLC 96 Carrier, Mode 1, DGA)  
 025-048 Odd and Even (SLC 96 Carrier, Mode 1, DGB)  
 049-072 Odd and Even (SLC 96 Carrier, Mode 1, DGC)  
 073-096 Odd and Even (SLC 96 Carrier, Mode 1, DGD)  
 001-024 Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA)  
 025-048 Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB)  
 049-072 Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC)  
 073-096 Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD)

01 (DS0A at 2.4, 4.8, 9.6, or 56 kb/s)  
01-20 (DS0B at 2.4 kb/s)  
01-10 (DS0B at 4.8 kb/s)  
01-05 (DS0B at 9.6 kb/s)

**wxkqr** - Hierarchical NPC number of termination connected to BRi with the same valid values as the master leg.

**data** - Data

The data fields refer to the connection data associated with the four branch legs of MJU ssss. Each branch data field can take one of three forms, depending on whether the branch is unassigned, cross-connected to an external facility termination, or cross-connected to a cascaded MJU control leg.

| <i>data</i> | <i>Explanation</i>                                                         |
|-------------|----------------------------------------------------------------------------|
| 000000/00   | For unassigned branches                                                    |
| ghijjj/ll   | For branches connected to external facility terminations                   |
| MJU nnnn    | For branches connected to another MJU with number nnnn (0002 through 9999) |

**s** - Termination state of the MJU control or branch leg

Variable s contained in the MA and branch data indicates the terminate and leave status of each MJU connection. Branches or MJUs connected by the SCON command are automatically assigned the terminate and leave released status. The "TO" direction is defined as the direction facing the MJU.

| <i>s</i> | <i>Explanation</i>                   |
|----------|--------------------------------------|
| R        | RELEASED. Neither side is terminated |
| F        | FROM side is terminated              |
| T        | TO side is terminated                |
| B        | BOTH sides are terminated            |

**reason** - Reason for denial

Reason

CHANNEL [s]abcddd IS A PARITY CHANNEL  
CUSTOMER NUMBER MUST BE SPECIFIED FOR DS0B CHANNEL [s]abcddd  
CHANNEL [s]abcddd WITH SR ERROR CORRECTION AND RATE 56  
NOT ALLOWED  
CHANNEL [s]abcddd SR MULTIPLEXER RATE CANNOT SUPPORT  
CIRCUIT RATE  
CUSTOMER NUMBER RANGE NOT ALLOWED FOR DS0A CHANNEL [s]abcddd  
CHANNEL RANGE NOT ALLOWED FOR DS-OB CHANNEL [s]abcddd  
FROM AND TO RANGES ARE NOT THE SAME SIZE  
FROM AND TO RANGES PARTIALLY OVERLAP  
INVALID CHANNEL NUMBER FOR CHANNEL [s]abcddd  
SPECIFIED RATE DOES NOT MATCH EXISTING CIRCUIT RATE  
MJU 1 MUST BE SPECIFIED AS THE MULTIPOINT MASTER LEG MJU  
CIRCUIT RATE MUST BE SPECIFIED  
CHANNEL [s]abcddd/ff IS CONNECTED BUT NOT AS A  
MULTIPOINT MASTER LEG  
MA FIELD MUST BE SPECIFIED FOR A NEW MJU  
MA FIELD MUST MATCH CIRCUIT  
UPSTREAM BRANCH SPECIFIED IN MA FIELD IS ASSIGNED  
UPSTREAM BRANCH SPECIFIED IN MA FIELD DOES NOT EXIST  
CHANNEL [s]abcddd/ff IS SPECIFIED MORE THAN ONCE  
BR i IS SPECIFIED MORE THAN ONCE  
MA FIELD NOT ALLOWED WHEN MJU 1 IS SPECIFIED  
MJU NAMES IN MJU AND MA FIELDS CANNOT BE THE SAME  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0A CHANNEL [s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0B CHANNEL [s]abcddd  
CHANNEL [s]abcddd IS OUT OF RANGE  
CHANNEL [s]abcddd/ff IS ASSIGNED  
BR i IS ALREADY ASSIGNED TO ANOTHER CHANNEL OR MJU  
MJU ssss ALREADY EXISTS IN THE CIRCUIT  
CHANNEL [s]abcddd IS NOT ESTABLISHED TO SR FEATURE  
CHANNEL [s]abcddd/ff IS UNDER TEST  
NPC [s]abc IS NOT PROVISIONED AS DIGROUP-A OF AN RT  
DIGROUP-B ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS  
NOT PROVISIONED  
DIGROUP-C ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS  
NOT PROVISIONED  
DIGROUP-D ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS  
NOT PROVISIONED  
NPC [s]abc IS IN LINE LOOPBACK STATE  
CIRCUIT IS UNDER TEST  
UNIT [q]q IS NOT FACILITY TERMINATING TYPE  
NO DSPU IS EQUIPPED  
NO SRM TYPE NPC IS EQUIPPED  
NO MJU TYPE NPC IS EQUIPPED  
CCNI s IS NOT EQUIPPED  
TSI sft IS NOT EQUIPPED  
CCB sf IS NOT EQUIPPED  
CCI s IS NOT EQUIPPED

ETSI sqq IS NOT EQUIPPED  
UNIT [q]q IS NOT EQUIPPED  
UNIT [q]q FTMI d IS NOT EQUIPPED  
UNIT [q]q FC sb IS NOT EQUIPPED  
DSPI IN UNIT [q]q IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED  
NPC [s]abc SIDE s IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED  
UNIT [q]q MXR c NOT EQUIPPED  
CONNECTION EXCEEDS REMAINING MJU CAPACITY  
BOTH CCN SIDES ARE OUT-OF-SERVICE  
ACTIVE CCN SIDE IS OUT-OF-SERVICE  
ACTIVE CCN SIDE IS PESTED  
INACTIVE CCN SIDE IN-SERVICE AND NPC [s]abc ON INACTIVE  
SIDE IS OOS  
CCNI s IS OUT-OF-SERVICE  
TSI sft IS OUT-OF-SERVICE  
CCB sf IS OUT-OF-SERVICE  
CCI s IS OUT-OF-SERVICE  
ETSI sqq IS OUT-OF-SERVICE  
UNIT [q]q IS OUT-OF-SERVICE  
UNIT [q]q FTMI d IS OUT-OF-SERVICE  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
NPC [s]abc IS OUT-OF-SERVICE  
NPC [s]abc SIDE s IS OUT-OF-SERVICE  
UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED  
MAINTENANCE CONDITION PREVENTS COMPLETION OF THIS COMMAND  
ACTIVE CCN SIDE IS FAILED  
CCNI s IS FAILED  
TSI sft IS FAILED  
CCB sb IS FAILED  
CCI s IS FAILED  
ETSI sqq IS FAILED  
UNIT [q]q IS FAILED  
UNIT [q]q FTMI d IS FAILED  
UNIT [q]q FC sb IS FAILED  
DSPI IN UNIT [q]q IS FAILED  
NPC [s]abc IS FAILED  
NPC [s]abc SIDE s IS FAILED  
UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
NIT [q]q MIU c IS FAILED

## **SCON,RATE,TPT,FROM,TO**

### **SUBRATE CROSS-CONNECTION**

#### **Explanation Of Command**

This command cross-connects the FROM and TO customers defined by the **ff** and **ll** fields. The customer number fields are optional for DS0A terminations; if not specified, the default value is 01.

#### **Command**

##### **Nonhierarchical**

[I.19201]

```
SCON:FRM xy,SEQ ww:RATE rr[,TPT],FROM [s]abcddd[/ff],\  
TO [t]ghijjj[/ll]!
```

##### **Hierarchical**

[I.19201]

```
SCON:FRM xy,SEQ ww:RATE rr[,TPT],FROM uvmnpddd[/ff],\  
TO wxkqrjjj[/ll]!
```

#### **Completion Message**

##### **Nonhierarchical**

[O.19201]

```
M hh:mm:ss xy,ww n[vv] SCON RATE rr,TPT;[s]abcddd/ff,\  
[t]ghijjj/ll COMPL
```

### **Hierarchical**

---

[O.19201]

M hh:mm:ss xy,ww n[vv] SCON RATE rr,TPT;uvmnpddd/ff,\  
wxkqrjjj/ll COMPL

### **Denial Message**

---

### **Nonhierarchical**

---

[O.19201.01]

M hh:mm:ss xy,ww n[vv] SCON RATE rr,TPT;[s]abcdddd/ff,\  
[t]ghijjj/ll 2 LN MSG:  
<reason> DNY

### **Hierarchical**

---

[O.19201.01]

M hh:mm:ss xy,ww n[vv] SCON RATE rr,TPT;uvmnpddd/ff,\  
wxkqrjjj/ll 2 LN MSG:  
<reason> DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**TPT** - Two-Point (optional).

Retained only for DACS/SRDC compatibility. The command format above shows that RATE rr and the optional TPT are followed by a comma (.). To preserve DACS/SRDC compatibility, this comma may also be replaced with a semicolon (;).

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number  
**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |
| <b>16A-16H</b>               | <b>32A-32H</b>               | <b>48A-48H</b>               | <b>64A-64H</b>               | <b>80A-80H</b>               | <b>96A-96H</b>               |



If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**uv,wx** - Unit number

**m,k** - Module number

**np,qr** - NPC number within the module

Values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM channel number  
**jjj** - TO channel number

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - FROM customer number  
**ll** - TO customer number

|       |                                     |
|-------|-------------------------------------|
| 01    | (DS0A at 2.4, 4.8, 9.6, or 56 kb/s) |
| 01-20 | (DS0B at 2.4 kb/s)                  |
| 01-10 | (DS0B at 4.8 kb/s)                  |
| 01-05 | (DS0B at 9.6 kb/s)                  |

**RATE** - Rate

Rate at which the FROM and TO customers are cross-connected

**rr** - Circuit rate (24, 48, 96, or 56)

| <b>rr</b> | rate in kb/s |
|-----------|--------------|
| 24        | 2.4          |
| 48        | 4.8          |
| 96        | 9.6          |
| 56        | 56           |

The channels abcd and ghijkl must be established using a subrate establish command before they can be cross-connected.

The RATE cannot exceed the maximum customer rate of the subrate multiplexers associated with those DS0B channels. The allowed customer numbers (ff and ll) depend on the rate of the circuit and the type of DS0B channel associated with each termination, as shown below:

| Circuit<br>Rate rr | DS0B Type                                      |                                                |                                               |
|--------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------|
|                    | 20-channel<br>(max. customer<br>rate 2.4 kb/s) | 10-channel<br>(max. customer<br>rate 4.8 kb/s) | 5-channel<br>(max. customer<br>rate 9.6 kb/s) |
| RATE 24            | Cust. #s<br>1-20 Allowed                       | Cust. #s<br>1-10 Allowed                       | Cust. #s<br>1-5 Allowed                       |
| RATE 48            | Denied                                         | Cust. #s<br>1-10 Allowed                       | Cust. #s<br>1-5 Allowed                       |
| RATE 96            | Denied                                         | Denied                                         | Cust. #s<br>1-5 Allowed                       |
| RATE 56            | Denied                                         | Denied                                         | Denied                                        |

The customer numbers ff and ll, are optional when the customer to be connected is in a DS0A signal. This is because there is only one customer in a DS0A signal. If specified, it must appear as 01. Also, for DS0A channels, the RATE is checked against the type of error correction previously specified in the command used to establish that channel. If the channel has subrate error correction, a circuit rate of 56 is not allowed.

The user must ensure that a circuit using the secondary channel capability is assigned only to a facility termination that is compatible with this capability. If the termination is a DS0A or if its associated facility NPC was grown without zero suppression, any assignment of the NEW termination is compatible with the secondary channel capability. If the termination is in a DS0B **and** its associated facility NPC was grown with zero suppression, the user can only assign secondary channel services to a termination with the following customer numbers within the given DS0B type:

| DS0B Type  | Allowed Customer Numbers       |
|------------|--------------------------------|
| 20-channel | 2, 3, 6, 8, 11, 12, 13, and 18 |
| 10-channel | 2, 3, 6, and 8                 |
| 5-channel  | 2 and 3                        |

The fields, FROM [s]abcd[ff] and TO [t]ghij[ll] specify the customers to cross-connect. FROM and TO have no significance to DACS II and either customer of the circuit may be designated FROM or TO. To loop a customer back to itself, specify the FROM and TO fields identically.

Subrate cross-connections are marked automatically as red circuits. This results in the need to specify the INCL keyword in the command to remove an NPC whenever a facility terminating NPC carrying SRDC circuits is removed.

Also, the SCON verb does not affect the customer control marking of a channel. The CUS marking is disabled while the channel is established to the Subrate feature, but is returned once the channel is disestablished. The **RATE rr** field indicates the customer rate of the circuit specified in the input command **ff** and **ll** define the customer numbers associated with the FROM and TO channel pair. These fields are optional in the input command for DS0A terminations. If the input command did not specify one or both of these numbers, the output value is 01.

**reason** - Reason for denial

reason

CHANNEL [s]abcddd IS A PARITY CHANNEL  
CUSTOMER NUMBER MUST BE SPECIFIED FOR DS0B CHANNEL [s]abcddd  
CHANNEL [s]abcddd SR MULTIPLEXER RATE CANNOT SUPPORT CIRCUIT  
RATE  
CHANNEL [s]abcddd WITH SR ERROR CORRECTION AND RATE 56 NOT  
ALLOWED  
INVALID CHANNEL NUMBER FOR CHANNEL [s]abcddd

CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0A CHANNEL [s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0B CHANNEL [s]abcddd  
CHANNEL [s]abcddd IS OUT OF RANGE

CHANNEL [s]abcddd/ff IS ASSIGNED

CHANNEL [s]abcddd IS NOT ESTABLISHED TO THE SR FEATURE  
CHANNEL [s]abcddd/ff IS UNDER TEST  
DIGROUP-B ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS NOT  
PROVISIONED  
DIGROUP-C ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS NOT  
PROVISIONED  
DIGROUP-D ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS NOT  
PROVISIONED  
NPC [s]abc IS NOT PROVISIONED AS DIGROUP-A OF AN RT  
NPC [s]abc IS IN LINE LOOPBACK STATE

NO DSPU IS EQUIPPED  
NPC [s]abc IS NOT EQUIPPED  
TSI sft IS NOT EQUIPPED  
CCB sf IS NOT EQUIPPED  
ETSI sqq IS NOT EQUIPPED

UNIT [q]q IS NOT FACILITY TERMINATING TYPE

CONNECTION EXCEEDS REMAINING EC CAPACITY

BOTH CCN SIDES ARE OUT-OF-SERVICE  
NO SRM TYPE NPC IS EQUIPPED  
NO MJU TYPE NPC IS EQUIPPED  
INACTIVE CCN SIDE IN-SERVICE AND NPC ON INACTIVE SIDE IS OOS  
ACTIVE CCN SIDE IS OUT-OF-SERVICE  
CCNI s IS OUT-OF-SERVICE  
TSI sft IS OUT-OF-SERVICE  
CCB sf IS OUT-OF-SERVICE  
CCI s IS OUT-OF-SERVICE  
ETSI sqq IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
NPC [s]abc IS OUT-OF-SERVICE  
NPC [s]abc SIDE s IS OUT-OF-SERVICE  
MAINTENANCE CONDITION PREVENTS COMPLETION OF THIS COMMAND  
UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE  
UNIT [q]q MXR c NOT EQUIPPED

UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED  
ACTIVE CCN SIDE IS FAILED  
CCNI s IS FAILED  
CCI s IS FAILED  
TSI sft IS FAILED  
CCB sf IS FAILED  
ETSI sqq IS FAILED  
DSPI IN UNIT [q]q IS FAILED  
NPC [s]abc IS FAILED  
NPC [s]abc SIDE s IS FAILED

ACTIVE CCN SIDE IS PESTED

| st   | d       | Explanation                   |
|------|---------|-------------------------------|
| ROLL | {F T B} | Circuit is involved in a roll |

## **SCON,RATE,TPT,FROM,TO**

### **SUBRATE CROSS-CONNECTION**

#### **Explanation Of Command**

This command cross-connects the FROM and TO customers in both directions. This command also extends the format of I.19201 to support ranges of two-point, two-way cross-connections.

#### **Command**

##### **Nonhierarchical**

[I.19211]

For a DS0A Channel

```
SCON:FRM xy,SEQ ww:RATE rr,[TPT,]FROM [s]abcd-dd-eee[/01],\  
TO [t]ghijjj-kkk[/01]!
```

For a DS0B Channel

```
SCON:FRM xy,SEQ ww:RATE rr,[TPT,]FROM [s]abcd-dd/ff-mm,\  
TO [t]ghijjj/ll-nn!
```

## **Hierarchical**

---

[I.19211]

For a DS0A Channel

**SCON:FRM xy,SEQ ww:RATE rr,[TPT,]FROM uvmnpddd-eee[/01],\  
TO wxkqrjjj-kkk[/01]!**

For a DS0B Channel

**SCON:FRM xy,SEQ ww:RATE rr,[TPT,]FROM uvmnpddd/ff-mm,\  
TO wxkqrjjj/ll-nn!**

## **Completion Message**

---

### **Nonhierarchical**

---

USAGE: For range connections of DS0A channels

[O.19211]

**M hh:mm:ss xy,ww n[vv] SCON RATE rr [s]abcd-dd-eee/01 \  
[t]ghijjj-kkk/01 COMPL**

USAGE: For range connections of subrate customer numbers

[O.19211]

**M hh:mm:ss xy,ww n[vv] SCON RATE rr [s]abcd-dd-eee/ff-mm \  
[t]ghijjj-kkk/ll-nn COMPL**

### **Hierarchical**

---

USAGE: For range connections of DS0A channels

[O.19211]

**M hh:mm:ss xy,ww n[vv] SCON RATE rr uvmnpddd-eee/01 \  
wxkqrjjj-kkk/01 COMPL**

USAGE: For range connections of subrate customer numbers

[O.19211]

**M hh:mm:ss xy,ww n[vv] SCON RATE rr uvmnpddd-eee/ff-mm \  
wxkqrjjj-kkk/ll-nn COMPL**



## **Denial Message**

---

### **Nonhierarchical**

---

USAGE: For range connections of DS0A channels

[O.19211.01]

```
M hh:mm:ss xy,ww n[vv] SCON RATE rr FROM [s]abcd-dd-eee/01 \
3 LN MSG:
TO [t]ghijjj-kkk/01 ppp/pp,qqq/qq
<reason> DNY
```

USAGE: For range connections of subrate customer numbers

[O.19211.01]

```
M hh:mm:ss xy,ww n[vv] SCON RATE rr FROM [s]abcd-dd-eee/ff-mm \
3 LN MSG:
TO [t]ghijjj-kkk/ll-nn ppp/pp,qqq/qq
<reason> DNY
```

### **Hierarchical**

---

USAGE: For range connections of DS0A channels

[O.19211.01]

```
M hh:mm:ss xy,ww n[vv] SCON RATE rr FROM uvmnpddd-eee/01 \
3 LN MSG:
TO wxkqrjjj-kkk/01 ppp/pp,qqq/qq
<reason> DNY
```

USAGE: For range connections of subrate customer numbers

[O.19211.01]

```
M hh:mm:ss xy,ww n[vv] SCON RATE rr FROM uvmnpddd-eee/ff-mm \
3 LN MSG:
TO wxkqrjjj-kkk/ll-nn ppp/pp,qqq/qq
<reason> DNY
```

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number

[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

The values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM channel number  
**eee** - FROM channel number for end of range specified  
**jjj** - TO channel number  
**kkk** - TO channel number for end of range specified

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - FROM customer number  
**mm** - FROM customer number for end of range specified  
**ll** - TO customer number  
**nn** - TO customer number for end of range specified

|       |                                     |
|-------|-------------------------------------|
| 01    | (DS0A at 2.4, 4.8, 9.6, or 56 kb/s) |
| 01-20 | (DS0B at 2.4 kb/s)                  |
| 01-10 | (DS0B at 4.8 kb/s)                  |
| 01-05 | (DS0B at 9.6 kb/s)                  |

**RATE** - Circuit rate  
**rr** - Circuit rate value (24, 48, 96, or 56)

The FROM and TO fields specify the customers to cross-connect. The FROM and TO keywords have no significance to DACS II and either customer of the circuit may be designated FROM or TO. To loop a range of customers back to themselves, specify the FROM and TO fields identically.

There are two ways to specify ranges, as evidenced by the two formats that may follow the FROM and TO keywords:

- Range specified in channel field: [s]abcddd-eee[/01]

Ranges must be specified in the channel field when a range of DS0A customers is desired. However, a range is allowed in the channel field only if the channels are DS0A channels. The optional field must, if present, be 01. As an example, [0]001002-010/01 specifies a range of nine DS0A customers on NPC [0]001. [0]001002-010 does the same thing without the optional customer number field.

- Range specified in customer number field: [s]abcddd/ff-mm

Ranges must be specified in the customer number field when a range of DS0B customers is desired. If NPC [0]020, channel 004 was established as a 10-customer DS0B channel, then [0]020004/01-09 specifies a range of nine customers on NPC [0]020 channel 004.

Specifying a range in both the channel and customer number field for the same customer specification, such as [0]001001-009/01-09, will be denied.

**RATE** - Circuit rate

**rr** - Circuit rate value (24, 48, 96, 56)

**ppp/pp** - FROM termination involved in the denial where:

**ppp** - FROM channel number

**pp** - FROM customer number

**qqq/qq** - TO termination involved in the denial where:

**qqq** - TO channel number

**qq** - TO customer number

**reason** - Reason for denial

Input Errors

*reason*

explanation of error condition code

CHANNEL [s]abcddd IS A PARITY CHANNEL

CUSTOMER NUMBER MUST BE SPECIFIED FOR DS0B

CHANNEL [s]abcddd

CHANNEL [s]abcddd WITH SR ERROR CORRECTION AND RATE 56

NOT ALLOWED  
CHANNEL [s]abcddd SR MULTIPLEXER RATE CANNOT SUPPORT  
CIRCUIT RATE  
CUSTOMER NUMBER RANGE NOT ALLOWED FOR DS0A  
CHANNEL [s]abcddd  
CHANNEL RANGE NOT ALLOWED FOR DS-OB CHANNEL [s]abcddd  
FROM AND TO RANGES ARE NOT THE SAME SIZE  
FROM AND TO RANGES PARTIALLY OVERLAP  
INVALID CHANNEL NUMBER FOR CHANNEL [s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0A  
CHANNEL [s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0B  
CHANNEL [s]abcddd  
CHANNEL [s]abcddd IS OUT OF RANGE  
[s]abcddd-eee IS AN INVALID RANGE OF CHANNELS  
CHANNEL [s]abcddd/ff IS ALREADY ASSIGNED  
CHANNEL [s]abcddd IS NOT ESTABLISHED TO SR FEATURE  
CHANNEL [s]abcddd/ff IS UNDER TEST  
NPC [s]abc IS NOT PROVISIONED AS DIGROUP-A OF AN RT  
DIGROUP-B ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS  
NOT PROVISIONED  
DIGROUP-C ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS  
NOT PROVISIONED  
DIGROUP-D ASSOCIATED WITH VIRTUAL CHANNEL [s]abcddd IS  
NOT PROVISIONED  
NPC [s]abc IS IN LINE LOOPBACK STATE

#### Maintenance Conditions

##### *reason*

NO DSPU IS EQUIPPED  
NO SRM TYPE NPC IS EQUIPPED  
NO MJU TYPE NPC IS EQUIPPED  
TSI sft IS NOT EQUIPPED  
CCB sf IS NOT EQUIPPED  
ETSI sqq IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED  
UNIT [q]q MXR c NOT EQUIPPED  
UNIT [q]q IS NOT EQUIPPED  
UNIT [q]q FTMI d IS NOT EQUIPPED{OUT-OF-SERVICE|FAILED}  
UNIT [q]q FC sb IS NOT EQUIPPED  
UNIT [q]q IS NOT FACILITY TERMINATING TYPE  
CONNECTION EXCEEDS REMAINING EC CAPACITY  
  
BOTH CCN SIDES ARE OUT-OF-SERVICE  
INACTIVE CCN SIDE IN-SERVICE AND NPC ON INACTIVE SIDE  
IS OOS

ACTIVE CCN SIDE IS OUT-OF-SERVICE  
CCNI s IS OUT-OF-SERVICE  
TSI sft IS OUT-OF-SERVICE  
CCB sf IS OUT-OF-SERVICE  
CCI s IS OUT-OF-SERVICE  
ETSI sqq IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
NPC [s]abc IS OUT-OF-SERVICE  
NPC [s]abc SIDE s IS OUT-OF-SERVICE  
UNIT [q]q IS OUT-OF-SERVICE  
UNIT [q]q FTMI d IS OUT-OF-SERVICE  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE  
MAINTENANCE CONDITION PREVENTS COMPLETION OF THIS  
COMMAND  
ACTIVE CCN SIDE IS FAILED  
ACTIVE CCN SIDE IS PESTED  
CCNI s IS FAILED  
TSI sft IS FAILED  
CCB sf IS FAILED  
CCI s IS FAILED  
ETSI sqq IS FAILED  
DSPI IN UNIT [q]q IS FAILED  
NPC [s]abc IS FAILED  
NPC [s]abc SIDE s IS FAILED  
UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED  
UNIT [q]q IS FAILED  
UNIT [q]q FTMI d IS FAILED  
UNIT [q]q FC sb IS FAILED  
DSPI IN UNIT [q]q IS FAILED

## **SDCH,TO,PCH,DCC**

### **SUBRATE DISESTABLISH CHANNEL**

#### **Explanation Of Command**

This message disconnects a channel (or a range of channels) in a digroup from use by the subrate feature. If an error correction parity channel is associated with the named channel and is *not* named in the input command, the system automatically finds and disestablishes it as well. However, one should not take this to imply that the parity channel may be disconnected in a range, since this is not the case.

#### **Command**

##### **Nonhierarchical**

[I.19151]

**SDCH:FRM xy,SEQ ww:TO [s]abcddd[-eee][,PCH[ ppp]][,DCC]!**

##### **Hierarchical**

[I.19151]

**SDCH:FRM xy,SEQ ww:TO uvmnpddd[-eee][,PCH[ ppp]][,DCC]!**

#### **Completion Message**

##### **Nonhierarchical**

[O.19151]

**M hh:mm:ss xy,ww n[vv] SDCH [s]abcddd[-eee] [PCH ppp ][DCC ]\  
[OOS ] COMPL**



### **Hierarchical**

[O.19151]

M hh:mm:ss xy,ww n[vv] SDCH uvmnpddd[-eee] [PCH ppp ][DCC ]\  
[OOS ] COMPL

### **Denial Message**

### **Nonhierarchical**

[O.19151.01]

M hh:mm:ss xy,ww n[vv] SDCH [s]abcdddd[-eee][ PCH[ ppp]]\  
[ DCC][ qqg] 2 LN MSG:  
<reason> DNY

### **Hierarchical**

[O.19151.01]

M hh:mm:ss xy,ww n[vv] SDCH uvmnpddd[-eee][ PCH[ ppp]][ DCC]\  
[ qqg] 2 LN MSG:  
<reason> DNY

### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

[s]abc - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1 | Unit<br>2 | Unit<br>3 | Unit<br>4 | Unit<br>5 | Unit<br>6 |
|-----------|-----------|-----------|-----------|-----------|-----------|
| NPC       | NPC       | NPC       | NPC       | NPC       | NPC       |
| 001-160   | 161-320   | 321-480   | 481-640   | 641-800   | 801-960   |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number  
**eee** - Channel number for end of range specified

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**PCH** - Parity Channel

**ppp** - Parity error correction channel number

Included only for downward compatibility with the equivalent DACS/Subrate command. The PCH field indicates that a parity channel associated with channel ddd is to be disestablished as well.

If the PCH field is not used and a parity channel is present, the system automatically finds and disestablishes the parity channel associated with channel ddd.

ppp must agree with the parity channel assignment associated with channel ddd or the command will be denied. Channel ranges are not allowed if the range includes any channel associated with parity channel error correction.

**Note:** Disestablishment can only be done after all Subrate cross-connections are disconnected.

**DCC** - Disconnect Code

Causes the Digital Data System (DDS) Unassigned Multiplexer Channel (UMC) control code to be inserted in the disestablished channel(s) towards the digroup facility. If DDC is not specified, the disconnect code specified in the growth NPC command associated with the specified digroup is used.

**OOS** - Out of service

Channels connected with an out-of-service facility NPC may be disestablished with this command. Such disestablishments require no special keyword in the input command, but the output message will contain the OOS keyword to indicate that the facility is out-of-service. The user should note that the appropriate disconnect channel code may not be inserted in the disestablished channel until the facility is restored to service under these conditions.

**CUS** - Customer

Customer-controlled circuit

This disestablish command returns the customer control marking of channels that were previously marked with as CUS prior to being established to the Subrate feature.

The optional **PCH ppp** field appears whenever an associated error correction parity channel is also disestablished. It is not necessary for this field to be included in the input command, as the system automatically locates and disestablishes the parity channel whenever the associated data channel is disestablished.

**qqq** - Channel number involved in the denial (ddd through eee)

The user should note that none of the preceding channels in the range are completed if a problem is found, and subsequent channels may or may not have additional problems.

**reason** - Reason for denial

#### INPUT ERRORS

##### **reason**

CHANNEL NUMBER IS OUT OF RANGE FOR NPC TYPE SPECIFIED  
SPECIFIED CHANNEL IS NOT ESTABLISHED TO THE SUBRATE  
SPECIFIED CHANNEL HAS NO ASSOCIATED PARITY CHANNEL  
SPECIFIED DATA AND PARITY CHANNEL NUMBERS ARE INCONSISTENT  
RANGE DISCONNECT OF CHANNEL WITH PCH IS NOT ALLOWED  
CHANNEL [s]abcddd OR A CUSTOMER IS UNDER TEST  
RANGE DISESTABLISH OF DATA CH [s]abcddd HAVING PCH IS NOT  
ALLOWED  
ACTIVE SUBRATE CROSS-CONNECTS ARE PRESENT ON THE CHANNEL

## MAINTENANCE CONDITIONS

### **reason**

ACTIVE CROSS-CONNECT NETWORK SIDE IS FAILED  
SPECIFIED NPC IS UNEQUIPPED  
REQUIRED UNIT NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED CCB NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED TSI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED ETSI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED FTMI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED FC NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED DSPI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED SUBRATE PACK NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED SRM NOT EQUIPPED, NOT IN SERVICE, OR FAILED

### DS3U reasons for denial

#### *reason*

UNIT [q]q MXR c NOT EQUIPPED  
UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE  
UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED

| <b>st</b>   | <b>d</b>       | <i>Explanation</i>            |
|-------------|----------------|-------------------------------|
| <b>ROLL</b> | <b>{F T B}</b> | Circuit is involved in a roll |

## **SDIS,RATE,MPTM,MJU**

### **SUBRATE DISCONNECTION**

#### **Explanation Of Command**

This command provides multipoint branch disconnection of customers in both directions. All channels must have been cross-connected using the **SCON** or **SCNT** commands before they can be disconnected with **SDIS**. It is used to disconnect customers from the branches of a multipoint junction unit (MJU). The MJU itself remains connected to the circuit. As many as four branches can be disconnected from an MJU with one command. This command *cannot* be used to disconnect MJUs or branches that are cascaded to additional MJUs. To disconnect MJUs and branches, see **SDIS : RATE,MPTM,MJU,ALL**

Multipoint circuits can be disconnected incrementally, one command at a time. Many commands can address the same multipoint circuit. Indeed, many commands can address the same MJU of a circuit. A command might address an MJU, say MJU 0005 which has branches 1, 2, 3, and 4 connected, and disconnect customers from branches 1 and 2. This command results in no service interruption to branches 3 and 4 which are still connected. Another command might also address MJU 0005 and disconnect the customer from branch 3, leaving branch 4 undisturbed.

#### *Red Circuit and Customer Control Marking*

Subrate cross-connections are automatically marked as red circuits. Removal (RMV) of a facility terminating NPC with Subrate circuits connected to it requires the INCL keyword.

The **SDIS** action does not affect the customer control marking of a channel. The CUS marking is disabled while the channel is established to the Subrate feature, but is enabled once the channel is disestablished.

Once customers are disconnected, the UMC code is sent towards the customers' facilities. Disconnected customers do not require a re-establishment (**SECH**) of their channels before being re-connected (**SCON** or **SCNT**).

The master leg of the multipoint circuit (MPTM) is specified by digroup abc, channel ddd,

customer number ff, and serves as the reference for addressing all MJUs and branches in the circuit. At least one branch must be specified with its corresponding external facility termination data.

## Command

---

### Nonhierarchical

---

[I.19421]

SDIS:FRM xy,SEQ ww:[RATE rr,]MPTM [s]abcddd[/ff],MJU ssss,\  
<branch>[,<branch>][,<branch>][,<branch>]!

### Hierarchical

---

[I.19421]

SDIS:FRM xy,SEQ ww:[RATE rr,]MPTM uvmnpddd[/ff],MJU ssss,\  
<branch>[,<branch>][,<branch>][,<branch>]!

## Completion Message

---

### Nonhierarchical

---

[O.19421]

M hh:mm:ss xy,ww n[vv] SDIS RATE rr MPTM [s]abcddd/ff \  
MJU ssss 4 LN MSG:  
BRi [t]ghijjj/ll[ <branch>][ <branch>][ <branch>]  
NEW MJU ssss MA {tttt,u|MPTM} s BR1 <data> s BR2 <data> s  
BR3 <data> s BR4 <data> s \  
[OOS ]COMPL

### Hierarchical

---

[O.19421]

M hh:mm:ss xy,ww n[vv] SDIS RATE rr MPTM uvmnpddd/ff \  
MJU ssss 4 LN MSG:  
BRi wxkqrjjj/ll[ <branch>][ <branch>][ <branch>]  
NEW MJU ssss MA {tttt,u|MPTM} s BR1 <data> s BR2 <data> s  
BR3 <data> s BR4 <data> s \  
[OOS ]COMPL



## Denial Message

---

### Nonhierarchical

---

[O.19421.01]

M hh:mm:ss xy,ww n[vv] SDIS[ RATE rr] MPTM [s]abcddd/ff \  
MJU ssss 3 LN MSG:  
BRi[ [t]ghijjj/ll][ <branch>][ <branch>][ <branch>]  
<reason> DNY

### Hierarchical

---

[O.19421.01]

M hh:mm:ss xy,ww n[vv] SDIS[ RATE rr] MPTM uvmnpddd/ff \  
MJU ssss 3 LN MSG:  
BRi[ wxqrrjjj/ll][ <branch>][ <branch>][ <branch>]  
<reason> DNY

## Autonomous Message

---

Not applicable.

## Explanation Of Parameters

---

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number of the master leg

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1 | Unit<br>2 | Unit<br>3 | Unit<br>4 | Unit<br>5 | Unit<br>6 |
|-----------|-----------|-----------|-----------|-----------|-----------|
| NPC       | NPC       | NPC       | NPC       | NPC       | NPC       |
| 001-160   | 161-320   | 321-480   | 481-640   | 641-800   | 801-960   |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number of the master leg

The allowable values are presented below:

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number of the multipoint circuit master leg

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - Customer number of the multipoint circuit master leg (1 through 20)

|       |                                     |
|-------|-------------------------------------|
| 01    | (DS0A at 2.4, 4.8, 9.6, or 56 kb/s) |
| 01-20 | (DS0B at 2.4 kb/s)                  |
| 01-10 | (DS0B at 4.8 kb/s)                  |
| 01-05 | (DS0B at 9.6 kb/s)                  |

**RATE** - Rate

**rr** - Circuit rate (24, 48, 56, or 96).

RATE rr is always optional on an **SDIS**. rr specifies the rate at which customers are cross-connected, and thus, the rate at which MJUs operate. All MJUs in the same circuit operate at the same rate. If specified, RATE rr will be checked, and must be the same rate as originally appeared in the **SCON** or **SCNT** command. If it is not the same, the **SDIS** command will be denied.

**MPTM** - Multipoint master

**[s]abcddd[/ff]**

- The **NPC**, **channel**, and optional customer number connected to the control leg of **MJU 1**.

This field is used to identify the circuit as a whole. There is exactly one multipoint master for a multipoint circuit.

The data sent **BY** the multipoint master is broadcast to all branches on the circuit. The data sent **TO** the multipoint master is a summation of data sent by the branches.

The customer number, **ff**, is optional when the customer is in a **DS0A** channel because there is only one customer in a **DS0A** channel. If specified, it must appear as **01**.

A customer number is required when specifying a customer in a **DS0B** signal. Allowed customer numbers differ depending on the type of **DS0B** channel, as shown below.

| <i>DS0B nn</i> | <i>Allowed Subrate Customer Numbers</i> |
|----------------|-----------------------------------------|
| DS0B 20        | 1 through 20                            |
| DS0B 10        | 1 through 10                            |
| DS0B 5         | 1 through 5                             |

Because the multipoint master is used to uniquely identify the circuit as a whole, it is required for all **SDIS** commands, regardless of which **MJU** the command addresses (**MJU ssss** in the message formats above).

**MJU** - Multipoint junction unit

**ssss** - **MJU** number of cross-connected **MJU** (0001-9999)

**MJU ssss** identifies the **MJU** that the command addresses. All **MJUs** are given a number, **ssss**, when the circuit is built with the **SCON** or **SCNT** commands. This number should be used in the **SDIS** command to address an **MJU**.

**branch** - External facility termination for branch connected to MJU ssss

| <b>branch</b>      | <i>Explanation</i>                                                                |
|--------------------|-----------------------------------------------------------------------------------|
| BRi [[t]ghijj]/ll] | Nonhierarchical branch and termination identification (see BRi [t]ghijj/ll below) |
| BRi [wxkqrjj]/ll]  | Hierarchical branch and termination identification (see BRi wxkqrjj/ll below)     |

The termination part of the branch is optional since the system knows what customer is connected to MJU ssss branch i.

The branch field identifies a branch that will be disconnected from the customer connected to it. If the customer is a DS0A customer, the customer number is optional and, if present, must be 01. If the NPC and channel numbers are specified for a DS0B customer the customer number is required.

From one to four branches can be specified in an **SDIS** command; disconnecting up to four customers from the four branches of an MJU. At least one branch must be specified. A maximum of four branches is allowed. The <branch> fields can appear in any order. Nothing is disconnected from branches that are not specified in the command.

Branch fields might be omitted for several reasons. Suppose branches 1, 2, and 3 of MJU ssss are connected with branch 4 unconnected. If the user wished to disconnect only the customer from branch 3, then only **BR3 [ [t]ghijj]/ll ]** would appear in the command. Branches 1 and 2 would not appear because the user does not want to disconnect them. Branch 4 would not appear because there is no customer to disconnect.

If an unconnected branch, like branch 4, is specified in an **SDIS** command, the command will be denied.

**BRi [t]ghijj/ll**

- Nonhierarchical termination number connected to branch  
i of MJU ssss

**BRi wxkqrjj/ll**

- Hierarchical termination number connected to branch i of MJU ssss

|               |                                                                                |
|---------------|--------------------------------------------------------------------------------|
| <b>BR</b>     | - Branch                                                                       |
| <b>i</b>      | - Branch number of MJU ssss (1 through 4)                                      |
| <b>[t]ghi</b> | - The 3- or 4-digit nonhierarchical NPC number of termination connected to BRi |

|              |                                                                                                                                                     |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>wxkqr</b> | - Hierarchical NPC number of termination connected to BRi.                                                                                          |
| <b>jjj</b>   | - Channel number of termination connected to BRi                                                                                                    |
| <b>ll</b>    | - Customer number of termination connected to BRi                                                                                                   |
| <b>NEW</b>   | - New                                                                                                                                               |
| <b>BR1</b>   | - Branch 1                                                                                                                                          |
| <b>BR2</b>   | - Branch 2                                                                                                                                          |
| <b>BR3</b>   | - Branch 3                                                                                                                                          |
| <b>BR4</b>   | - Branch 4                                                                                                                                          |
| <b>data</b>  | - Branch connection data upon completion of the branch disconnection                                                                                |
| <b>data</b>  | <i>Explanation</i>                                                                                                                                  |
| [0]000000/00 | Nonhierarchical format for unassigned branch                                                                                                        |
| 00000000/00  | Hierarchical format for unassigned branch                                                                                                           |
| [t]ghijj/ll  | Nonhierarchical format for branch connected to an external facility termination                                                                     |
| wxqrijj/ll   | Hierarchical format for branch connected to an external facility termination                                                                        |
| MJU nnnn     | Branch connected to MJU number nnnn (0002 through 9999)                                                                                             |
| <b>tttt</b>  | - MJU number connected to control leg of MJU ssss (0001 through 9999)                                                                               |
| <b>u</b>     | - Branch number of MJU tttt (1 through 4)                                                                                                           |
| <b>s</b>     | - Termination state of the MJU control or branch leg                                                                                                |
|              | Indicates the terminate and leave state of one or both ends of the cross-connection. The "TO" direction is defined as the direction facing the MJU. |
| <b>s</b>     | <i>Explanation</i>                                                                                                                                  |
| F            | FROM (FROM side is terminated)                                                                                                                      |
| T            | TO (TO side is terminated)                                                                                                                          |
| B            | BOTH (BOTH sides are terminated)                                                                                                                    |
| R            | RELEASED (Neither side is terminated)                                                                                                               |

**MA** - Master

MA identifies the upstream MJU number and branch connected to the control leg of MJU ssss. In the case of MJU 1, the control leg is actually the master leg of the circuit and is indicated in the MA field by MPTM.

**OOS** - Out-of-service

OOS appears in the output whenever the disconnection involves an out-of-service or failed facility termination NPC. In this case, the user should note that the Unassigned Multiplexer Channel (UMC) code may not be inserted towards the facilities of the disconnected circuit until the facility is restored to service.

**reason** - *Reason for denial*

**reason**

CHANNEL [s]abcddd IS A PARITY CHANNEL  
CUSTOMER NUMBER MUST BE SPECIFIED FOR  
DS0B CHANNEL [s]abcddd  
CHANNEL [s]abcddd/FF IS CONNECTED BUT NOT  
AS A MULTIPOINT MASTER LEG  
CHANNEL [s]abcddd/ff IS SPECIFIED MORE  
THAN ONCE  
INVALID CHANNEL NUMBER FOR CHANNEL  
[X]XXXXYY  
SPECIFIED RATE DOES NOT MATCH EXISTING  
CIRCUIT RATE  
BR i IS SPECIFIED MORE THAN ONCE  
BR i IS CONNECTED TO A DOWNSTREAM MJU  
MJU ssss DOES NOT EXIST IN THE CIRCUIT  
BR i IS NOT CONNECTED AS SPECIFIED

CUSTOMER NUMBER ff IS OUT OF RANGE FOR  
DS0A CHANNEL [s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR  
DS0B CHANNEL [s]abcddd  
CHANNEL [s]abcddd IS OUT OF RANGE  
[X]XXXXYY-FFF IS AN INVALID RANGE OF  
CHANNELS

BR i IS UNASSIGNED  
CHANNEL [s]abcddd/ff IS UNASSIGNED



CHANNEL [s]abcddd IS NOT ESTABLISHED TO SR  
FEATURE  
CHANNEL [s]abcddd/ff IS UNDER TEST  
NPC [X]XXX IS NOT PROVISIONED AS DIGROUP-A  
OF AN RT  
THE NETWORK PROCESSING CIRCUIT ASSOCIATED  
WITH VIRTUAL CHANNEL [X]XXXXYY IS  
NOT PROVISIONED  
NPC [X]XXX IS IN LINE LOOPBACK STATE  
CIRCUIT IS UNDER TEST

TSI sft IS NOT EQUIPPED  
CCB sf IS NOT EQUIPPED  
ETSI sqq IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED  
UNIT [q]q IS NOT EQUIPPED  
UNIT [q]q FTMI d IS NOT EQUIPPED  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
UNIT [q]q MXR c NOT EQUIPPED

UNIT [q]q IS NOT FACILITY TERMINATING TYPE

BOTH CCN SIDES ARE OUT-OF-SERVICE  
ACTIVE CCN SIDE IS OUT-OF-SERVICE  
CCNI s IS OUT-OF-SERVICE  
TSI sft IS OUT-OF-SERVICE  
CCB sf IS OUT-OF-SERVICE  
CCI s IS OUT-OF-SERVICE  
ETSI sqq IS OUT-OF-SERVICE  
UNIT [q]q IS OUT-OF-SERVICE  
UNIT [q]q FTMI d IS OUT-OF-SERVICE  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
NPC [s]abc IS OUT-OF-SERVICE  
NPC [s]abc SIDE s IS OUT-OF-SERVICE  
UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE

ACTIVE CCN SIDE IS FAILED  
ACTIVE CCN SIDE IS PESTED  
CCNI s IS FAILED  
TSI sft IS FAILED  
CCB sf IS FAILED  
CCI s IS FAILED  
ETSI sqq IS FAILED  
UNIT [q]q IS FAILED  
UNIT [q]q FTMI d IS FAILED  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS FAILED  
NPC [s]abc SIDE s IS FAILED  
UNIT [q]q FLI k IS FAILED  
U:g/NIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED

## **SDIS,RATE,MPTM,MJU,ALL**

### **SUBRATE DISCONNECTION**

#### **Explanation Of Command**

This command provides deletion of MJUs and disconnection of customers in both directions. Customers must have been cross-connected (using the **SCON** or **SCNT** verbs) before they can be disconnected with **SDIS**. This command performs a cascaded MJU disconnection. The **MJU ssss** field identifies the place to begin the disconnection. **MJU ssss** as well as any MJUs cascaded from it will be disconnected. A maximum of 21 MJUs can be disconnected in one command. Message Number I.19421 only disconnects customers from branches of MJUs.

#### **Command**

##### **Nonhierarchical**

[I.19431]

**SDIS:FRM xy,SEQ ww:[RATE rr,]MPTM [s]abcddd[/ff],MJU ssss \  
[,ALL]!**

##### **Hierarchical**

[I.19431]

**SDIS:FRM xy,SEQ ww:[RATE rr,]MPTM uvmnpddd[/ff],MJU ssss \  
[,ALL]!**

## Completion Message

---

### Nonhierarchical

---

[O.19431]

```
M hh:mm:ss xy,ww n[vv] SDIS RATE rr MPTM [s]abcddd/ff \  
MJU ssss[ ALL] e LN MSG:  
OLD MJU ssss MA {tttt,u|MPTM } s BR1 <data> s BR2 <data> s  
BR3 <data> s BR4 <data> s  
<Two data lines for each additional disconnected OLD MJU (see \  
below)> EOM
```

.  
.  
.

```
M hh:mm:ss xy,ww n[vv] SDIS RATE rr MPTM [s]abcddd/ff \  
MJU ssss[ ALL] e LN MSG:  
OLD MJU vvvv MA wwwv,x s BR1 <data> s BR2 <data> s  
BR3 <data> s BR4 <data> s
```

.  
.  
.

```
NEW MJU tttt MA {yyyy,z|MPTM } s BR1 <data> s BR2 <data> s  
BR3 <data> s BR4 <data> s\  
[OOS ]COMPL
```

### Hierarchical

---

[O.19431]

```
M hh:mm:ss xy,ww n[vv] SDIS RATE rr MPTM uvmnpddd/ff \  
MJU ssss[ ALL] e LN MSG:  
OLD MJU ssss MA {tttt,u|MPTM } s BR1 <data> s BR2 <data> s  
BR3 <data> s BR4 <data> s  
<Two data lines for each additional disconnected OLD MJU (see \  
below)> EOM
```

.  
.  
.

```
M hh:mm:ss xy,ww n[vv] SDIS RATE rr MPTM uvmnpddd/ff \
MJU ssss[ ALL] e LN MSG:
OLD MJU vvvv MA www,x s BR1 <data> s BR2 <data> s
                        BR3 <data> s BR4 <data> s
                        .
                        .
                        .
NEW MJU tttt MA {yyyy,z|MPTM } s BR1 <data> s BR2 <data> s
                        BR3 <data> s BR4 <data> s\
[OOS ]COMPL
```

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.19431.01]

```
M hh:mm:ss xy,ww n[vv] SDIS[ RATE rr] MPTM [s]abcdddd/ff \
MJU ssss[ ALL] e LN MSG:
[OLD MJU ssss MA {tttt,u|MPTM } s BR1 <data> s BR2 <data> s]
[ BR3 <data> s BR4 <data> s]
<reason> DNY
```

#### **Hierarchical**

---

[O.19431.01]

```
M hh:mm:ss xy,ww n[vv] SDIS[ RATE rr] MPTM uvmnpddd/ff \
MJU ssss[ ALL] e LN MSG:
[OLD MJU ssss MA {tttt,u|MPTM } s BR1 <data> s BR2 <data> s]
[ BR3 <data> s BR4 <data> s]
<reason> DNY
```

### **Autonomous Message**

---

Not applicable.

### Explanation Of Parameters

**e** - Number of lines in the message

**RATE** - Rate

**rr** - Circuit rate (24, 48, 96, 56)

The optional RATE rr field specifies the rate at which customers are cross-connected, and thus, the rate at which MJUs operate. All MJUs in the same circuit operate at the same rate. If specified, rr will be checked and must be the same rate as given in the SCON or SCNT command. If it is not the same, the SDIS command will be denied.

**MPTM** - Multipoint master

The NPC, channel, and optional customer number of the external facility termination connected to the control leg of MJU 1. There is exactly one multipoint master for a multipoint circuit. This field is used to identify the circuit as a whole. The data sent by this multipoint master is broadcast to all branches on the circuit. The data sent to the multipoint master is a summation of data sent by the branches.

The multipoint master is required for all SDIS commands, since it uniquely identifies the circuit, regardless of which MJU the command addresses (MJU ssss in the INPUT FORMATS).

**[s]abc** - The 3- of 4-digit nonhierarchical NPC number of the multipoint circuit master leg

The allowable values are presented below:

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number of the multipoint circuit master leg

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The allowable values are presented below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number of the multipoint circuit master leg

001 through 024



|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - Customer number of the multipoint circuit master leg (1 through 20)

ff is optional when the customer is in a DS0A channel because there is only one customer in a DS0A channel. If specified, it must appear as 01.

ff is required when specifying a customer in a DS0B signal. Allowed customer numbers differ depending on the type of DS0B channel, as shown below.

| <i>DS0B nn</i> | <i>Allowed Subrate Customer Numbers</i> |
|----------------|-----------------------------------------|
| DS0B 20        | 1 through 20                            |
| DS0B 10        | 1 through 10                            |
| DS0B 5         | 1 through 5                             |

**ff** *Explanation*

|       |                                     |
|-------|-------------------------------------|
| 01    | (DS0A at 2.4, 4.8, 9.6, or 56 kb/s) |
| 01-20 | (DS0B at 2.4 kb/s)                  |
| 01-10 | (DS0B at 4.8 kb/s)                  |
| 01-05 | (DS0B at 9.6 kb/s)                  |

**NEW** - New

The lines in the output message associated with the NEW keyword list the new connection data for the just-upstream MJU after the disconnection of the control leg of MJU ssss. These cross-connections remain in effect after completion of the disconnect. If the disconnected MJU ssss is MJU 1, the NEW MJU fields are filled with zeroes, indicating that no MJUs remain in the circuit.

**OLD** - Old

The lines in the output message associated with the OLD keyword list all of the disconnected MJUs and branches associated with MJU ssss. This includes the branch data of MJU ssss, as well as the data for up to twenty additional MJUs that may have been cascaded from MJU ssss and its associated downstream connections.

**MJU** - Multipoint junction unit

**ssss** - MJU number of disconnected MJU (0001 through 9999)

ssss identifies the MJU at which to begin the disconnection. Leading zeros are not required when specifying ssss. All MJUs are given a number, ssss, when the circuit is built with the SCON or SCNT commands. This number should be used in the SDIS command to choose the MJU at which to begin the disconnection. The maximum number of MJUs that can be disconnected with a single command is 21. If there are more than 20 MJUs cascaded (connected directly or indirectly) to MJU ssss, the command will be denied. If by specifying ssss, 21 or fewer MJUs will be disconnected, the control leg of MJU ssss will be disconnected as will everything cascaded from the branches of MJU ssss. If the multipoint circuit is composed of 21 or fewer MJUs and ssss is specified as 0001, the entire multipoint circuit is disconnected.

**ALL** - All

If ALL is not specified, all the branches of MJU ssss must be unconnected. Then, MJU ssss and its control leg will be disconnected.

If ALL is specified, it denotes that MJU ssss, its control leg, and everything connected directly or indirectly to the branches of MJU ssss will be disconnected.

ALL appears in the output message only if present in the input command, and is normally used whenever the disconnection of MJU ssss also results in the disconnection of its branches from external facility terminations or cascaded MJUs.

**MA** - Master

The MA keyword identifies the upstream MJU number and branch connected to the control leg of MJU ssss. In the case of MJU 1, the control leg is actually the master leg of the circuit and is indicated in the MA field by MPTM.

**tttt** - MJU number connected to control leg of MJU ssss (0001 through 9999)  
**u** - Branch number of MJU tttt (1 through 4)

**vvvv** - MJU number of additional cascaded MJUs (0002 through 9999)

**www** - MJU number connected to control leg of MJU vvvv  
**x** - Branch number of MJU connected to control leg of MJU vvvv

**yyyy** - MJU number connected to control leg of MJU tttt  
**z** - Branch number of MJU connected to control leg of MJU tttt

**BR1** - Branch 1  
**BR2** - Branch 2  
**BR3** - Branch 3  
**BR4** - Branch 4

The BRi <data> fields refer to the connection data associated with the four branch legs of MJU ssss. Each branch data field can take one of three forms, depending on whether the branch is unassigned, cross-connected to an external facility termination, or cross-connected to a cascaded MJU control leg.

**data** - Branch connection data in the form:

| <b>data</b>         | <i>Explanation</i>                                                                |
|---------------------|-----------------------------------------------------------------------------------|
| <b>[0]000000/00</b> | - Nonhierarchical format for unassigned branches                                  |
| <b>[t]ghijjj/ll</b> | - Nonhierarchical format for branches connected to external facility terminations |
| <b>00000000/00</b>  | - Nonhierarchical format for unassigned branches                                  |
| <b>wxkqrjjj/ll</b>  | - Nonhierarchical format for branches connected to external facility terminations |
| <b>MJU nnnn</b>     | - For branches connected to another MJU with number nnnn (0002 through 9999)      |

**s** - Termination state of the MJU control or branch leg

Indicates whether either or both ends of the cross-connection are in the terminate and leave state. The "TO" direction is defined as the direction facing the MJU.

| <i>s</i> | <i>Explanation</i>                   |
|----------|--------------------------------------|
| R        | Released. Neither side is terminated |
| F        | FROM side is terminated              |
| T        | TO side is terminated                |
| B        | BOTH sides are terminated            |

**OOS** - Out-of-service

If the disconnected facilities are associated with one or more OOS facility terminating NPCs, the OOS keyword appears in the output message. In this case, the user should note that the Unassigned Multiplexer Channel (UMC) code may not be inserted towards the facilities of the disconnected circuits until they are restored to service.

**reason** - *Reason for denial*

#### **reason**

CHANNEL [s]abcddd IS NOT ESTABLISHED TO SR  
FEATURE  
CHANNEL [s]abcddd IS A PARITY CHANNEL  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR  
DS0A CHANNEL [s]abcddd  
CUSTOMER NUMBER MUST BE SPECIFIED FOR  
DS0B CHANNEL [s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR  
DS0B CHANNEL [s]abcddd  
CHANNEL [s]abcddd/FF IS CONNECTED BUT NOT  
AS A MULTIPOINT MASTER LEG  
CHANNEL [s]abcddd/ff IS UNDER TEST  
CHANNEL [s]abcddd/ff IS UNASSIGNED  
CHANNEL [s]abcddd IS OUT OF RANGE

NPC [X]XXX IS NOT PROVISIONED AS DIGROUP-A  
OF AN RT  
THE NPC ASSOCIATED WITH VIRTUAL CHANNEL  
[X]XXXXYY IS  
NOT PROVISIONED  
INVALID CHANNEL NUMBER FOR CHANNEL  
[X]XXXXYY  
[X]XXXXYY-FFF IS AN INVALID RANGE OF  
CHANNELS  
NPC [X]XXX IS IN LINE LOOPBACK STATE  
MJU ssss DOES NOT EXIST IN THE CIRCUIT  
NUMBER OF DISCONNECTED MJUS EXCEEDS  
THE LIMIT OF 21  
SPECIFIED RATE DOES NOT MATCH EXISTING  
CIRCUIT RATE  
CIRCUIT IS UNDER TEST  
CONNECTED BRANCHES ARE PRESENT AND  
THE ALL KEYWORD IS NOT SPECIFIED

BOTH CCN SIDES ARE OUT-OF-SERVICE  
ACTIVE CCN SIDE IS {OUT-OF-SERVICE|FAILED  
|PESTED}  
UNIT [q]q IS NOT FACILITY TERMINATING TYPE  
CCNI s IS {OUT-OF-SERVICE|FAILED}  
TSI sft IS {NOT EQUIPPED|OUT-OF-SERVICE  
|FAILED}  
CCB sf IS {NOT EQUIPPED|OUT-OF-SERVICE  
|FAILED}  
CCI s IS {OUT-OF-SERVICE|FAILED}  
ETSI sqq IS {NOT EQUIPPED|OUT-OF-SERVICE  
|FAILED}  
UNIT [q]q IS {NOT EQUIPPED|OUT-OF-SERVICE  
|FAILED}  
UNIT [q]q FTMI d IS {NOT EQUIPPED  
|OUT-OF-SERVICE|FAILED}  
UNIT [q]q FC sb IS {NOT EQUIPPED  
|OUT-OF-SERVICE|FAILED}  
DSPI IN UNIT [q]q IS {OUT-OF-SERVICE|FAILED}  
NPC [s]abc IS NOT EQUIPPED  
NPC [s]abc SIDE s IS {OUT-OF-SERVICE|FAILED}  
MAINTENANCE CONDITION PREVENTS  
COMPLETION OF THIS COMMAND

DS3U related errors

UNIT [q]q MXR c NOT EQUIPPED

UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE

UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED

## **SDIS,RATE,TPT,FROM,TO**

### **SUBRATE DISCONNECTION**

#### **Explanation Of Command**

This command disconnects the **FROM** and **TO** customers in both directions. The channels **abcd** and **ghij** must be cross-connected (using the **SCON** or **SCNT** verbs) before they can be disconnected with **SDIS**.

The optional **RATE rr** field defines the rate at which the **FROM** and **TO** customers were cross-connected. If specified it will be checked and must be the same rate as originally appeared in the **SCON** or **SCNT** command. The **TPT** keyword means two-point and is optional. It conveys no information and is retained for DACS/SRDC compatibility.

#### **Command**

##### **Nonhierarchical**

[I.19401]

```
SDIS:FRM xy,SEQ ww:[RATE rr[,TPT],] FROM [s]abcd[/ff],\  
TO [t]ghij[/ll]!
```

##### **Hierarchical**

[I.19401]

```
SDIS:FRM xy,SEQ ww:[RATE rr[,TPT],] FROM uvmnpdd[/ff],\  
TO wxkqrjjj[/ll]!
```

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.19401]

M hh:mm:ss xy,ww n[vv] SDIS RATE rr,TPT;[s]abcddd/ff,\  
[t]ghijjj/ll[ OOS] COMPL

#### **Hierarchical**

---

[O.19401]

M hh:mm:ss xy,ww n[vv] SDIS RATE rr,TPT;uvmnpddd/ff,\  
wxkqrjjj/ll[ OOS] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.19401.01]

M hh:mm:ss xy,ww n[vv] SDIS[ RATE rr] FROM [s]abcddd/ff \  
TO [t]ghijjj/ll 2 LN MSG:  
<reason> DNY

#### **Hierarchical**

---

[O.19401.01]

M hh:mm:ss xy,ww n[vv] SDIS[ RATE rr] FROM uvmnpddd/ff \  
TO wxkqrjjj/ll 2 LN MSG:  
<reason> DNY

### **Autonomous Message**

---

Not applicable.



### Explanation Of Parameters

- rr** - Circuit rate (24, 48, 96, or 56)
- TPT** - Two-point
- [s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number
- [t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM channel number  
**jjj** - TO channel number

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ll** - TO customer number  
**ff** - FROM customer number

|       |                                     |
|-------|-------------------------------------|
| 01    | (DS0A at 2.4, 4.8, 9.6, or 56 kb/s) |
| 01-20 | (DS0B at 2.4 kb/s)                  |
| 01-10 | (DS0B at 4.8 kb/s)                  |
| 01-05 | (DS0B at 9.6 kb/s)                  |

**reason** - Reason for denial

*reason*

CHANNEL [s]abcddd IS A PARITY CHANNEL  
CUSTOMER NUMBER MUST BE SPECIFIED FOR DS0B  
CHANNEL [s]abcddd  
INVALID CHANNEL NUMBER FOR CHANNEL [X]XXXXYY  
SPECIFIED RATE DOES NOT MATCH EXISTING CIRCUIT RATE

CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0A  
CHANNEL [s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0B  
CHANNEL [s]abcddd  
CHANNEL [s]abcddd IS OUT OF RANGE

CHANNELS ARE NOT CONNECTED TO EACH OTHER

CHANNEL [s]abcddd IS NOT ESTABLISHED TO SR FEATURE  
CHANNEL [s]abcddd/ff IS UNDER TEST  
NPC [X]XXX IS NOT PROVISIONED AS DIGROUP-A OF AN RT  
THE NPC ASSOCIATED WITH VIRTUAL CHANNEL [X]XXXXYY IS NOT  
PROVISIONED  
NPC [X]XXX IS IN LINE LOOPBACK STATE

UNIT [q]q IS NOT FACILITY TERMINATING TYPE

TSI sft IS NOT EQUIPPED  
CCB sf IS NOT EQUIPPED  
ETSI sqq IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED  
UNIT [q]q IS NOT EQUIPPED  
UNIT [q]q FTMI d IS NOT EQUIPPED  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
UNIT [q]q MXR c NOT EQUIPPED

BOTH CCN SIDES ARE OUT-OF-SERVICE  
ACTIVE CCN SIDE IS OUT-OF-SERVICE  
CCNI s IS OUT-OF-SERVICE  
TSI sft IS OUT-OF-SERVICE  
CCB sf IS OUT-OF-SERVICE  
CCI s IS OUT-OF-SERVICE  
ETSI sqq IS OUT-OF-SERVICE  
UNIT [q]q IS OUT-OF-SERVICE  
UNIT [q]q FTMI d IS OUT-OF-SERVICE  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
NPC [s]abc IS OUT-OF-SERVICE  
NPC [s]abc SIDE s IS OUT-OF-SERVICE  
UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE  
MAINTENANCE CONDITION PREVENTS COMPLETION OF THIS  
COMMAND

ACTIVE CCN SIDE IS FAILED  
CCNI s IS FAILED  
TSI sft IS FAILED  
CCB sf IS FAILED  
CCI s IS FAILED  
ETSI sqq IS FAILED  
UNIT [q]q IS FAILED  
UNIT [q]q FTMI d IS FAILED  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS FAILED  
NPC [s]abc IS FAILED  
NPC [s]abc SIDE s IS FAILED  
UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED  
ACTIVE CCN SIDE IS PESTED

| st   | d       | Explanation                   |
|------|---------|-------------------------------|
| ROLL | {F T B} | Circuit is involved in a roll |

## **SDIS,RATE,TPT,FROM,TO**

### **SUBRATE DISCONNECTION**

#### **Explanation Of Command**

This command disconnects the **FROM** and **TO** customers in both directions. It extends the format of the **SDIS, RATE, TPT, FROM, TO** command to ranges of two-point, two-way disconnections. This command is the same as the **SDIS, RATE, TPT, FROM, TO** command except for the range feature. See the **SDIS, RATE, TPT, FROM, TO** command for an explanation of features not related to the range feature.

The **FROM** and **TO** fields specify the customers to disconnect. The **FROM** and **TO** keywords have no significance to DACS II and either customer or range of customers may be designated **FROM** or **TO**. The **FROM** and **TO** designations do not have to be the same on an **SDIS, RATE, TPT, FROM, TO** command as they were on the corresponding **SCON** or **SCNT** command.

#### **Command**

##### **Nonhierarchical**

[I.19411]

```
SDIS:FRM xy,SEQ ww:[RATE rr,][TPT,] FROM [s]abcddd{-eee[/01]|\  
/ff-mm},TO [t]ghijjj{-kkk[/01]|/ll-nn}!
```

##### **Hierarchical**

[I.19411]

```
SDIS:FRM xy,SEQ ww:[RATE rr,][TPT,] FROM uvmnpdd{-eee[/01]|\  
/ff-mm},TO wxkqrjjj{-kkk[/01]|/ll-nn}!
```

## **Completion Message**

---

### **Nonhierarchical**

---

[O.19411]

M hh:mm:ss xy,ww n[vv] SDIS [RATE rr] [s]abcddd{-eee[/01]|\  
/ff-mm}[t]ghijjj{-kkk[/01]|/ll-nn} [ OOS] COMPL

### **Hierarchical**

---

[O.19411]

M hh:mm:ss xy,ww n[vv] SDIS [RATE rr] uvmnpddd{-eee[/01]|\  
/ff-mm}wxkqrjjj{-kkk[/01]|/ll-nn}[ OOS] COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.19411.01]

M hh:mm:ss xy,ww n[vv] SDIS[ RATE rr] FROM [s]abcddd{-eee\  
[/01]|/ff-mm} 3 LN MSG:  
TO [t]ghijjj{-kkk[/01]|/ll-nn} ddd/{01|ff},jjj/{01|ll}  
<reason> DNY

### **Hierarchical**

---

[O.19411.01]

M hh:mm:ss xy,ww n[vv] SDIS[ RATE rr] FROM uvmnpddd{-eee\  
[/01]|/ff-mm} 3 LN MSG:  
TO wxkqrjjj{-kkk[/01]|/ll-nn} ddd/{01|ff},jjj/{01|ll}  
<reason> DNY

## **Autonomous Message**

---

Not applicable.



### Explanation Of Parameters

**RATE** - Rate

**rr** - Circuit rate (24, 48, 96, or 56)

**TPT** - Two-Point, Two-way disconnection

**FROM** - From

**TO** - To

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number

**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

The allowable values are presented below:

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number  
**wxkqr** - Hierarchical TO NPC number

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

The allowable values are presented below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM Channel number  
**eee** - FROM channel number for end of range specified  
**jjj** - TO Channel number  
**kkk** - TO channel number for end of range specified

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - FROM DS0A or DS0B Customer number  
**mm** - FROM DS0B Customer number for end of range  
**ll** - TO DS0A or DS0B Customer number, similar to ff  
**nn** - TO DS0B Customer number for end of range

ff explanation

01 (DS0A at 2.4, 4.8, 9.6, or 56 kb/s)  
01-20 (DS0B at 2.4 kb/s)  
01-10 (DS0B at 4.8 kb/s)  
01-05 (DS0B at 9.6 kb/s)

There are two ways to specify ranges.

- Range specified in channel field: [s]abcd-dd-eee[/01]

This option applies only to DS0A channels, and the channel range, i.e., eee, must be specified when a range of DS0A customers is desired. The customer number for DS0a channels is always 01. For example, [0]001002-010/01 specifies a range of nine DS0A customers on NPC 001, while [0]001002-010 does the same thing without the optional customer number.

- Range specified in customer number field: [s]abcd-dd/ff-mm

This option applies only to a DS0B channel, and the range must be specified in the customer number field when a range of DS0B customers is desired. If NPC [0]020, channel 004 was established (using the SECH verb) as a 10 customer DS0B channel, then [0]020004/01-09 specifies a range of nine customers on NPC [0]020 channel 004.

Specifying a range in both the channel and customer number field for the same customer specification, such as [0]001001-009/01-09, will be denied.

**00S** - Out-of-service

**reason** - Reason for denial

*Reason*

CHANNEL [s]abcd-dd IS A PARITY CHANNEL  
CUSTOMER NUMBER MUST BE SPECIFIED FOR DS0B  
CHANNEL [s]abcd-dd  
CUSTOMER NUMBER RANGE NOT ALLOWED FOR DS0A  
CHANNEL [s]abcd-dd  
CHANNEL RANGE NOT ALLOWED FOR DS-OB CHANNEL [s]abcd-dd  
INVALID CHANNEL NUMBER FOR CHANNEL [X]XXXXYY  
FROM AND TO RANGES ARE NOT THE SAME SIZE  
FROM AND TO RANGES PARTIALLY OVERLAP  
SPECIFIED RATE DOES NOT MATCH EXISTING CIRCUIT RATE

CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0A  
CHANNEL [s]abcddd

CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0B  
CHANNEL [s]abcddd

CHANNEL [s]abcddd IS OUT OF RANGE  
[X]XXXXYY-FFF IS AN INVALID RANGE OF CHANNELS

CHANNEL [s]abcddd/ff IS UNDER TEST  
CHANNELS ARE NOT CONNECTED TO EACH OTHER

CHANNEL [s]abcddd/ff IS UNASSIGNED

CHANNEL [s]abcddd IS NOT ESTABLISHED TO SR FEATURE  
NPC [X]XXX IS NOT PROVISIONED AS DIGROUP-A OF AN RT  
THE NPC ASSOCIATED WITH VIRTUAL CHANNEL [X]XXXXYY IS NOT  
PROVISIONED  
NPC [X]XXX IS IN LINE LOOPBACK STATE

UNIT [q]q IS NOT FACILITY TERMINATING TYPE

TSI sft IS NOT EQUIPPED  
CCB sf IS NOT EQUIPPED  
ETSI sqq IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED  
UNIT [q]q IS NOT EQUIPPED  
UNIT [q]q FTMI d IS NOT EQUIPPED  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
UNIT [q]q MXR c NOT EQUIPPED

BOTH CCN SIDES ARE OUT-OF-SERVICE  
ACTIVE CCN SIDE IS OUT-OF-SERVICE  
CCNI s IS OUT-OF-SERVICE  
TSI sft IS OUT-OF-SERVICE  
CCB sf IS OUT-OF-SERVICE  
CCI s IS OUT-OF-SERVICE  
ETSI sqq IS OUT-OF-SERVICE  
UNIT [q]q IS OUT-OF-SERVICE  
UNIT [q]q FTMI d IS OUT-OF-SERVICE  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
NPC [s]abc IS OUT-OF-SERVICE  
NPC [s]abc SIDE s IS OUT-OF-SERVICE  
UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE  
MAINTENANCE CONDITION PREVENTS COMPLETION OF THIS  
COMMAND

ACTIVE CCN SIDE IS FAILED  
CCNI s IS FAILED  
TSI sft IS FAILED  
CCB sf IS FAILED  
CCI s IS FAILED  
ETSI sqq IS FAILED  
DSPI IN UNIT [q]q IS FAILED  
NPC [s]abc IS FAILED  
NPC [s]abc SIDE s IS FAILED  
UNIT [q]q IS FAILED  
UNIT [q]q FTMI d IS FAILED  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED  
ACTIVE CCN SIDE IS PESTED

## **SECH,TO,DS0A,DS0B,SEC,PCH**

### **SUBRATE ESTABLISH CHANNEL**

#### **Explanation Of Command**

This command connects a channel (or a range of channels) in a digroup to the subrate feature. When connected to the subrate feature, the channel is provided with test access capability using the **STST** commands and, if specified, a subrate multiplexer and/or an error correction function. A channel must be established before any cross-connections can be made via the **SCON** command. This command is recommended over the DACS/SRDC-compatible version **SECH: : TO, RATE, DP, PCH** (I.19111) due to its improved clarity.

DACS II will deny this command if it attempts to establish a DS0B channel on channel 24 of a DS1 provisioned with the T1DM framing format.

This command is used to establish five types of channels as follows:

1. A DS0B channel capable of multiplexing 5, 10, or 20 subrate customers.
2. A DS0A channel (at any rate) without error correction.
3. A subrate DS0A channel with subrate dataport error correction.
4. A 56-kb/s channel with parity channel error correction. (This type of error correction is also commonly referred to as "56-kb/s dataport" error correction.)
5. A DS0B channel capable of multiplexing 5, 10, or 20 subrate customers and parity channel error correction.

When a channel is established, it cannot be already established, cross-connected, or under test access. All channels within a specified range are established with the same parameters.

**Note:** For user convenience, an alphabetical "O" or a numerical "0" can be typed for the zero in DS0.

### **DS0B Channels Without Error Correction**

A DS0B channel is established by specifying a digroup and channel and the DS0B nn field.

The SEC or PCH fields must not be present for this type of channel.

As indicated above, a mix of customer rates can be cross-connected, provided the maximum rate for each type of subrate multiplexer is not exceeded.

### **DS0A Channels Without Error Correction**

A DS0A channel without error correction is established by specifying a digroup and channel and DS0A rr.

Again, the SEC or PCH keywords must not be present.

**Note:** The Subrate feature performs no rate-sensitive processing on this type of channel, and cross-connection is allowed to any other Subrate channel. The user must ensure that the signal rate is compatible with the intended cross-connection.

For example, if a DS0A channel with an actual rate of 4.8 kb/s is established, a cross-connection to a 10-channel or 20-channel multiplexer is allowed, but only the connection to the 10-channel multiplexer will provide error-free transmission.

### **DS0A Channels With Subrate Error Correction**

A subrate DS0A channel with subrate error correction is established by specifying the DS0A keyword with an rr value of 24, 48, or 96, and the SEC keyword. Subrate error correction performs a majority vote among the repeated bytes inherent in the byte-stuffed subrate DS0A signal to determine the corrected data. An rr value of 56 is not allowed, and the PCH keyword must not be present in specifying this type of channel.

### **56 kb/s Channels With Error Correction**

A 56-kb/s channel with parity channel error correction is established by specifying the DS0A keyword with an rr value of 56, and the PCH keyword. This command has the effect of establishing two channels, one for carrying the customer data and one for carrying parity error correction information. If no parity channel number (ppp) is specified, the parity channel is assigned automatically to the next higher numbered channel from the data channel (ddd + 1). Due to the need to assign parity channels, range provisioning of 56 kb/s channels with error correction is not allowed. Also, use of the PCH keyword when the rr value is less than 56 is not allowed.

### **DS0B Channels With Error Correction**



A DS0B channel that also has parity channel error correction performed on it is established by specifying the DS0B nn and PCH keywords. As above, the nn value determines the type of multiplexer, and the PCH keyword assigns a parity channel number ppp or defaults to ddd + 1. Also, range provisioning of this type of channel is not allowed.

Subrate established channels are marked automatically as red circuits. This results in the need to specify the INCL keyword in the RMV NPC command whenever a facility terminating NPC carrying Subrate channels is removed.

Also, the Subrate establish channel command has no effect on the customer controlled marking status of DACS II channels that previously have been marked with the CUS keyword. The CUS marking is disabled while the channel is established to the Subrate feature, but is enabled again once the channel is disestablished.

**Note:** When all 24 channels of an NPC using D4 superframe are established as DS0B channels, a yellow CGA can be declared for the NPC, even though there is no failure, if either of the following conditions exists:

1. The DS1 signal is looped at the DSX-1 and the mux out of sync (MOS) code is transmitted on all channels.
2. The far end is transmitting the MOS code on all 24 channels.

When all 24 channels are receiving MOS, the D4 superframe yellow alarm signal is simulated thus causing the CGA to be declared.

## **Command**

---

### **Nonhierarchical**

---

[I.19101]

```
SECH:FRM xy,SEQ ww:TO [s]abcddd[-eee],{DS0A rr|DS0B nn}\  
[, {SEC|PCH[ ppp]}}!
```

### **Hierarchical**

---

[I.19101]

```
SECH:FRM xy,SEQ ww:TO uvmnpddd[-eee],{DS0A rr|DS0B nn}\  
[, {SEC|PCH[ ppp]}}!
```

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.19101]

M hh:mm:ss xy,ww n[vv] SECH [s]abcddd[-eee] {DS0A rr|DS0B nn}\  
[ {SEC|PCH ppp}] COMPL

#### **Hierarchical**

---

[O.19101]

M hh:mm:ss xy,ww n[vv] SECH uvmnpddd[-eee] {DS0A rr|DS0B nn}\  
[ {SEC|PCH ppp}] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.19101.01]

M hh:mm:ss xy,ww n[vv] SECH [s]abcddd[-eee] {DS0A rr|DS0B nn}\  
[ {SEC|PCH[ ppp]}}[ qq] 2 LN MSG:  
<reason> DNY

#### **Hierarchical**

---

[O.19101.01]

M hh:mm:ss xy,ww n[vv] SECH uvmnpddd[-eee] {DS0A rr|DS0B nn}\  
[ {SEC|PCH[ ppp]}}[ qq] 2 LN MSG:  
<reason> DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**T0** - To

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |

| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |

| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |

| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number  
**eee** - Channel number for end of range specified

Channel numbers

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**DS0A** - Digital signal 0A

**rr** - DS0A channel rate (24, 48, 96, or 56)

The established channel is a DS0A type, that is, a single customer signal at rate rr.

**DS0B** - Digital signal 0B

**nn** - Number of DS0B subrate customer channels (05, 10, or 20)

The established channel is connected to a subrate multiplexer capable of multiplexing nn customers.

**SEC** - Subrate error correction

Subrate error correction is performed on the established channel. SEC cannot be used for either a DS0A or DS0B channel without error correction.

**PCH** - Parity channel

Parity error correction is performed on this channel. PCH cannot be used for either a DS0A or DS0B channel without error correction.

The SEC and PCH fields are present only if specified in the input command.

**ppp** - Parity channel number

Specifies the associated parity channel number. If not specified in the input command, this number defaults to the channel number + 1 (ddd + 1).

**qqq** - Channel number involved in the denial (ddd through eee)

**reason** - Reason for denial

If a denial pertains to a particular channel in a range, the channel number is given in the optional qqq field. The user should note that *none* of the preceding channels in a range are completed if a problem is found, and subsequent channels may or may not have additional problems.

reason

SPECIFIED DIGROUP DOES NOT SUPPORT SUBRATE CHANNELS  
CHANNEL dd IS OUT OF RANGE FOR NPC TYPE SPECIFIED  
CHANNEL [s]abcddd IS A TEST GROUP CHANNEL  
PARITY CHANNEL [s]abcddd IS A TEST GROUP CHANNEL  
SPECIFIED CHANNEL IS A TEST PORT  
SPECIFIED CHANNEL IS ALREADY ASSIGNED  
SPECIFIED CHANNEL IS UNDER TEST  
SPECIFIED PARITY CHANNEL IS A TEST PORT  
SPECIFIED PARITY CHANNEL IS ALREADY ASSIGNED  
SPECIFIED PARITY CHANNEL IS UNDER TEST  
SPECIFIED PARITY CHANNEL IS ALREADY SPECIFIED AS DATA CHANNEL  
PARITY CHANNEL NUMBER IS OUT OF RANGE  
SUBRATE ERROR CORRECTION NOT ALLOWED WITH RATE 56  
PARITY CHANNEL ERROR CORRECTION NOT ALLOWED FOR 24, 48, OR 96  
RATES  
PCH KEYWORD NOT ALLOWED WITH RANGE CROSS-CONNECTS  
CONNECTION EXCEEDS REMAINING SRM CAPACITY  
ERROR CORRECTION CAPACITY UNAVAILABLE ON DESIRED TYPE SUBRATE  
PACK

ACTIVE CROSS-CONNECT NETWORK SIDE IS FAILED  
SPECIFIED NPC IS UNEQUIPPED  
SPECIFIED NPC IS OUT-OF-SERVICE  
SPECIFIED NPC IS FAILED  
REQUIRED UNIT NOT EQUIPPED, NOT IN SERVICE, OR FAILED

REQUIRED CCB NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED TSI NOT EQUIPPED, NOT IN SERVICE, OR FAILED

REQUIRED ETSI NOT EQUIPPED, NOT IN SERVICE, OR FAILED

REQUIRED FTMI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED FC NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED DSPI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED SRM NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED SUBRATE PACK NOT EQUIPPED, NOT IN SERVICE, OR FAILED

UNIT [q]q MXR c NOT EQUIPPED

IDNV Input, data not valid

CHANNEL [s]abc-ddd IS A TEST GROUP CHANNEL  
PARITY CHANNEL [s]abc-ddd IS A TEST GROUP CHANNEL

SAAS Status, already assigned

Termination is in process of being rolled

UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE

UNIT [q]q FLI k IS FAILED  
UNIT [q]q FMT s IS FAILED  
UNIT [q]q MXR c IS FAILED  
UNIT [q]q MIU c IS FAILED

| st   | d       | Explanation                   |
|------|---------|-------------------------------|
| ROLL | {F T B} | Circuit is involved in a roll |



## **SECH,TO,RATE,DP,PCH**

### **SUBRATE ESTABLISH CHANNEL**

#### **Explanation Of Command**

This message connects a channel or a range of channels in a given digroup to the subrate feature. When connected to the subrate feature, the channel is provided with test access capability using the STST commands and, if specified, a subrate multiplexer and/or an error correction function.

#### **Command**

##### **Nonhierarchical**

[I.19111]

SECH:FRM xy,SEQ ww:TO [s]abcddd[-eee],RATE rr[,DP]\  
[,PCH[ ppp]]!

##### **Hierarchical**

[I.19111]

SECH:FRM xy,SEQ ww:TO uvmnpddd[-eee],RATE rr[,DP]\  
[,PCH[ ppp]]!

#### **Completion Message**

##### **Nonhierarchical**

[O.19111]

M hh:mm:ss xy,ww n[vv] SECH [s]abcddd[-eee] RATE rr [DP ]\  
[PCH ppp ] COMPL

### **Hierarchical**

---

[O.19111]

M hh:mm:ss xy,ww n[vv] SECH uvmnpddd[-eee] RATE rr [DP ]\  
[PCH ppp ] COMPL

### **Denial Message**

---

### **Nonhierarchical**

---

[O.19111.01]

M hh:mm:ss xy,ww n[vv] SECH [s]abcdddd[-eee] RATE rr[ DP]\  
[ PCH[ ppp]][ qq] 2 LN MSG:  
<reason> DNY

### **Hierarchical**

---

[O.19111.01]

M hh:mm:ss xy,ww n[vv] SECH uvmnpddd[-eee] RATE rr[ DP]\  
[ PCH[ ppp]][ qq] 2 LN MSG:  
<reason> DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

A channel must be established before any cross-connections can be made.

This command is used to establish five different types of channels as follows:

1. A DS0B channel capable of multiplexing 5, 10, or 20 subrate customers.
2. A 56-kb/s channel without error correction.
3. A subrate DS0A channel with subrate dataport error correction.
4. A 56-kb/s channel with parity channel error correction. (This type of error correction is also commonly referred to as "56-kb/s dataport" error correction.)
5. A DS0B channel capable of multiplexing 5, 10, or 20 subrate customers and parity channel error correction.

When a channel (or range of channels) is established, it (they) cannot be already established, cross-connected, or under test access. All channels within a specified range are established with the same parameters.

#### DS0B Channels (Without Error Correction)

A DS0B channel is established by specifying a digroup and channel and the RATE rr field. The DP and PCH fields must not be present for this type of channel. The RATE rr field defines the number of customer channels and the maximum customer rate of the subrate multiplexer as follows:

**rr** - Subrate multiplexer rate

| <i>rr</i> | <i>Explanation</i>                  |
|-----------|-------------------------------------|
| 24        | 20 - 2.4-kb/s customers             |
| 48        | 10 - 2.4- or 4.8-kb/s customers     |
| 96        | 5 - 2.4, 4.8, or 9.6-kb/s customers |

As indicated in the table above, a mix of customer rates can be cross- connected provided the maximum rate for each type of subrate multiplexer is not exceeded. 56-kb/s Channels Without Error Correction

A 56-kb/s DS0A channel without error correction is established by specifying a digroup and channel and RATE 56. The DP keyword is also allowed if desired, but otherwise is ignored by the system. The PCH keyword must not be present. This type of channel actually can be operated at any DDS rate since the Subrate performs no rate-sensitive processing on it. The user must ensure, however, that any subsequent cross-connections to other Subrate channels are compatible with the rate actually present in the channel. For example, when the channel actually carries a 4.8-kb/s byte-stuffed DS0A, the user may connect it to a 10-channel multiplexer or to a 20-channel multiplexer. In both cases, the command is allowed, but only the connection to the 10- channel multiplexer will provide error-free transmission.

#### DS0A Channels With Subrate Error Correction

A subrate DS0A channel with subrate error correction is established by specifying an rr value of 24, 48, or 96, and the DP keyword. Subrate error correction performs a majority vote among the repeated bytes inherent in the byte-stuffed subrate DS0A signal to determine the corrected data. An rr value of 56 is not allowed, and the PCH keyword must not be present in specifying this type of channel.

#### 56-kb/s Channels With Error Correction

A 56-kb/s channel with parity channel error correction is established by specifying an rr value of 56 and both the DP and PCH keywords. This command has the effect of establishing two channels, one for carrying the customer data and one for carrying parity error correction information. If no parity channel number (ppp) is specified, the parity channel is assigned automatically to the next higher numbered channel from the data channel (ddd + 1). Due to the need to assign parity channels, range provisioning of 56-kb/s

channels with error correction is not allowed.

#### DS0B Channels With Error Correction

A DS0B channel that also has parity channel error correction performed on it is established by specifying a RATE of 24, 48, or 96, corresponding to 20, 10, or 5 channel multiplexers, respectively, and the DP and PCH keywords. As above, if no parity channel number (ppp) is specified, the parity channel is assigned to ddd + 1. Also, no range provisioning of this type of channel is allowed.

Subrate established channels are marked automatically as red circuits. This results in the need to specify the **INCL** keyword in the RMV NPC command whenever a facility terminating NPC carrying Subrate channels is removed.

Also, the Subrate establish channel command has no effect on the customer control marking status of DACS II channels that previously have been marked with the **CUS** keyword. The **CUS** marking is disabled while the channel is established to the Subrate feature, but is returned once the channel is disestablished.

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |

| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number

**eee** - Channel number for end of range specified

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

The channel is now ready for Subrate cross-connection. Optional field **eee** appears if the input message requested the establishment of a range of channels.

The **RATE rr** field specifies the channel rate. If the optional **DP** and **PCH** fields are not present and rr = 24, 48, or 96, the established channel is connected to a subrate multiplexer capable of multiplexing 20, 10, or 5 customers, respectively. If rr = 56 and the optional fields are not present, the established channel is a DS0A type, i.e., a single customer signal without error correction.

When the optional **DP** field is present and rr = 24, 48, or 96, the established channel is a DS0A type with subrate error correction. If both **DP** and **PCH** fields are present and rr = 24, 48, or 96, the established channel is connected to a subrate multiplexer capable of multiplexing 20, 10, or 5 customers, respectively, and has parity channel error correction.

An **rr** value of 56 in combination with both **DP** and **PCH** fields indicate a 56 kb/s DS0A channel with parity channel error correction.

The **ppp** field specifies the parity channel number associated with the parity channel error correction function. If not specified in the input command, this number is defaulted to ddd + 1.

**qqq** - Channel number involved in the denial ( $ddd \leq qqq \leq eee$ )

**rr** - Channel rate (24, 48, 96, or 56)

**ppp** - Number of parity error correction channel

If the reason for denial pertains to a particular channel in a range, the channel number is given in the optional **qqq** field. The user should note that *none* of the preceding channels in the range are completed if a problem is found, and subsequent channels may or may not have additional problems.

The optional **DP** and **PCH** **ppp** fields indicate subrate and parity channel error correction, respectively. These fields are present only if specified in the input command.

**reason** - reason for denial

### Input Errors

*reason*

SPECIFIED DIGROUP DOES NOT SUPPORT SUBRATE CHANNELS  
CHANNEL dd IS OUT OF RANGE FOR NPC TYPE SPECIFIED  
CHANNEL [s]abcdddd IS A TEST GROUP CHANNEL  
PARITY CHANNEL [s]abcdddd IS A TEST GROUP CHANNEL  
SPECIFIED CHANNEL IS A TEST PORT  
SPECIFIED CHANNEL IS ALREADY ASSIGNED  
SPECIFIED CHANNEL IS UNDER TEST  
SPECIFIED PARITY CHANNEL IS A TEST PORT  
SPECIFIED PARITY CHANNEL IS ALREADY ASSIGNED  
SPECIFIED PARITY CHANNEL IS UNDER TEST  
SPECIFIED PARITY CHANNEL IS ALREADY SPECIFIED AS DATA CHANNEL  
PARITY CHANNEL NUMBER IS OUT OF RANGE  
DP KEYWORD WITHOUT PCH KEYWORD NOT ALLOWED WITH RATE 56  
PCH KEYWORD WITHOUT DP KEYWORD NOT ALLOWED  
PCH KEYWORD NOT ALLOWED FOR RANGE CROSS-CONNECTS  
CONNECTION EXCEEDS REMAINING SRM CAPACITY  
ERROR CORRECTION CAPACITY UNAVAILABLE ON DESIRED TYPE SUBRATE PACK

## **Maintenance Conditions**

### *reason*

ACTIVE CROSS-CONNECT NETWORK SIDE IS FAILED  
SPECIFIED NPC IS UNEQUIPPED  
SPECIFIED NPC IS OUT-OF-SERVICE  
SPECIFIED NPC IS FAILED  
REQUIRED UNIT NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED CCB NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED TSI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED ETSI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED FTMI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED FC NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED DSPI NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED SRM NOT EQUIPPED, NOT IN SERVICE, OR FAILED  
REQUIRED SUBRATE PACK NOT EQUIPPED, NOT IN SERVICE, OR FAILED

## **Error condition code for DS3U**

### *reason*

UNIT [q]q MXR c NOT EQUIPPED

CHANNEL [s]abc-ddd IS A TEST GROUP CHANNEL  
PARITY CHANNEL [s]abc-ddd IS A TEST GROUP CHANNEL

UNIT [q]q FLI k IS OUT-OF-SERVICE  
UNIT [q]q FMT s IS OUT-OF-SERVICE  
UNIT [q]q MXR c IS OUT-OF-SERVICE  
UNIT [q]q MIU c IS OUT-OF-SERVICE

UNIT [q]q FMT s IS FAILED  
UNIT [q]q FLI k IS FAILED  
UNIT [q]q MIU c IS FAILED  
UNIT [q]q MXR c IS FAILED



## **STOP,MACRO,LINK**

### **STOP MACRO**

#### **Explanation Of Command**

This command is used to stop the execution of a macro.

A regular DACS II user can use the link number option to stop macro execution on the link he or she is currently using. A frame administrator may use this option to stop macro execution on any link.

If this command was entered by the frame administrator then output from this command will be sent only to the link on which the frame administrator entered the command.

#### **Command**

[I.39311]

**STOP:FRM xy,SEQ ww:MACRO[,LINK l[mm]]!**

#### **Completion Message**

[O.39311]

**M hh:mm:ss xy,ww n[vv] STOP MACRO <macro name>[ l[mm]] COMPL**

#### **Denial Message**

[O.39311.01]

**M hh:mm:ss xy,ww n[vv] STOP MACRO <macro name>[ l[mm]] \  
COND cc DNY**

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**MACRO** - Macro

**LINK** - Link

**l[mm]** - Administrative link number

**l** - Physical link number (1 through 6)

**mm** - Virtual circuit number (01 through 16)

Variable m is the virtual circuit number in the administrative link.  
mm may only be specified when l is 5 or 6.

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

**6A** No macro is currently executing

**D0** Command is Frame administrator (DAX) only.

## **STST,MON,TO,MJU,TP**

### **SUBRATE TEST ACCESS**

#### **Explanation Of Command**

This command requests monitor test access on test port **kk** to a Subrate multipoint circuit. In this mode, data transmission in the tested circuit is not interrupted.

This command can only be used when the test port is in the released mode. If the desired multipoint test access point is already in the split mode, the STST,MON,TO,TP command can be used to place it in the monitor mode.

This command overrides any static trunk conditioning that may have been specified for the test port. The test port is given TRSP,MUX trunk conditioning for the duration of the Subrate test access and returned to its previous trunk conditioning state upon release.

#### **Command**

##### **Nonhierarchical**

[I.19621]

**STST:FRM xy,SEQ ww:MON,TO [s]abcddd[/ff],MJU ssss,[BRi,]\**  
**TP kk!**

##### **Hierarchical**

[I.19621]

**STST:FRM xy,SEQ ww:MON,TO uvmnpddd[/ff],MJU ssss,[BRi,]\**  
**TP kk!**

## **Completion Message**

---

### **Nonhierarchical**

---

[O.19621]

M hh:mm:ss xy,ww n[vv] STST MON MPTM [s]abcddd/ff MJU ssss\  
[ BRi] 2 LN MSG:  
RATE rr TP kk[ UNMAPPED] CGA (ftp) TLA s COMPL

### **Hierarchical**

---

[O.19621]

M hh:mm:ss xy,ww n[vv] STST MON MPTM uvmnpddd/ff MJU ssss\  
[ BRi] 2 LN MSG:  
RATE rr TP kk[ UNMAPPED] CGA (ftp) TLA s COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.19621.01]

M hh:mm:ss xy,ww n[vv] STST MON [s]abcddd[/ff] MJU ssss\  
[ BRi] 3 LN MSG:  
TP kk <reason 1>  
<reason 2> DNY

### **Hierarchical**

---

[O.19621.01]

M hh:mm:ss xy,ww n[vv] STST MON uvmnpddd[/ff] MJU ssss\  
[ BRi] 3 LN MSG:  
TP kk <reason 1>  
<reason 2> DNY

## **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number of the multipoint circuit master leg

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |

| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |

| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |

| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number of the multipoint circuit muster leg

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The valid values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number of the multipoint circuit master leg

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - TO customer number of the multipoint circuit master leg (1 through 20)

The customer number **ff** is required when the master leg of the multipoint circuit is a customer within a multiplexed DS0B channel. When the master leg is a nonmultiplexed (DS0A) channel, the customer number is entered as **01**, or if the user prefers, the customer number can be omitted and the system will default the value to 01. The customer number will appear in the output message only if specified in the input command.

|       |                                     |
|-------|-------------------------------------|
| 01    | (DS0A at 2.4, 4.8, 9.6, or 56 kb/s) |
| 01-20 | (DS0B at 2.4 kb/s)                  |
| 01-10 | (DS0B at 4.8 kb/s)                  |
| 01-05 | (DS0B at 9.6 kb/s)                  |

**MON** - Monitor

**TO** - To

**MJU** - Multipoint junction unit

**ssss** - MJU number of accessed MJU (0001 through 9999)

**ssss** is the MJU requested for connection to the TO test port. If MJU 0001 is specified, the TO test port faces the control leg of MJU 0001 and the FROM test port faces the master leg external facility termination. If an MJU number other than 0001 is specified and the **BR** is not listed, the TO side faces towards the control leg of the specified MJU and the FROM side faces upstream towards the branch of a cascaded MJU.

**BR** - Branch

**i** - Branch number of MJU **ssss** (1 through 4)

Specify **BRi** to connect branch *i* (*i* = 1 through 4) of MJU **ssss** to the TO test port. The FROM side will face downstream.

**BRi** is present only if specified in the input command.

**RATE** - Rate

**rr** - Transmission rate specification

**rr**      *rate in kb/s*

**24**      2.4

**48**      4.8

**96**      9.6

**56**      56

**TP** - Test port

**kk** - Test port number (01 through 96)

Indicates the test port number used for test access to the circuit.

**UNMAPPED**

- Unmapped

**UNMAPPED** is output if the specified test access point is not cross-connected. (This situation can occur only when test access to a branch is specified.) When the test access point is unmapped, no signal is connected to the odd test port channel.



**MPTM** - Multipoint master

[s]abcddd/ff or uvmnpddd/ff specifies the NPC, channel, and optional customer number of the multipoint master (MPTM) leg of the circuit. Note that this is *not* the facility connected to the TO side of the test port. The TO test port is connected to an MJU defined by ssss.

**CGA** - Carrier group alarm

**ftp** - CGA status

**f** - FROM CGA state

*f*      *Explanation*

F      FROM facility in CGA

0      FROM facility is not in CGA

**t** - TO CGA state

*t*      *Explanation*

T      TO facility in CGA

0      TO facility is not in CGA

**p** - Test port digroup CGA state

*p*      *Explanation*

P      Test port digroup in CGA

0      Test port digroup is not in CGA

The side of the test access port that faces the control leg of an MJU (that is, downstream) always has the corresponding CGA status listed as "0", indicating no alarm. The CGA status of a side facing upstream corresponds to the status of the circuit's master leg facility.

**F** - FROM facility in CGA

**0** - FROM facility is not in CGA

**T** - TO facility in CGA

**0** - TO facility is not in CGA

- P** - Test port digroup in CGA  
**0** - Test port digroup is not in CGA

The side of the test access port that faces the control leg of an MJU (that is, downstream) always has the corresponding CGA status listed as "0"; indicating no alarm. The CGA status of a side facing upstream corresponds to the status of the circuit's master leg facility.

- TLA** - Terminate and leave active

- s** - Terminate and leave status of the test access point.

s determines whether the access point is terminated in the FROM, TO, or BOTH, directions, or whether all terminations are released. The user should note that unmapped access points cannot be terminated.

|          |                                      |
|----------|--------------------------------------|
| <i>s</i> | <i>Explanation</i>                   |
| R        | RELEASED. Neither side is terminated |
| F        | FROM side is terminated              |
| T        | TO side is terminated                |
| B        | BOTH sides are terminated            |

**reason 1**

- Coded reason for denial

**reason 2**

- Explanation of reason 1

| reason 1 | reason 2                                                                  |
|----------|---------------------------------------------------------------------------|
| INERR    | THE SPECIFIED TEST PORT IS NOT EQUIPPED                                   |
| UEQD     | THE TEST PORT GROUP NPC [s]abc IS NOT EQUIPPED                            |
| F UEQD   | THE FROM SIDE NPC [s]abc IS NOT EQUIPPED                                  |
| T UEQD   | THE TO SIDE NPC [s]abc IS NOT EQUIPPED                                    |
| MCOND    | TSI sft IS NOT EQUIPPED                                                   |
| MCOND    | CCB sf IS NOT EQUIPPED                                                    |
| MCOND    | ETSI sqq IS NOT EQUIPPED                                                  |
| MCOND    | UNIT [q]q IS NOT EQUIPPED                                                 |
| MCOND    | UNIT [q]q FTMI d IS NOT EQUIPPED                                          |
| MCOND    | UNIT [q]q FC sb IS NOT EQUIPPED                                           |
| MCOND    | NPC [s]abc IS NOT EQUIPPED                                                |
| MCOND    | NO DSPU IS EQUIPPED                                                       |
| MCOND    | NO SRM OR MJU TYPE NPC IS EQUIPPED                                        |
| RNGIE    | CHANNEL NUMBER ddd IS OUT OF RANGE FOR NPC [s]abc                         |
| CN RATE  | CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0B<br>CHANNEL [s]abcddd          |
| CN RATE  | CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0A<br>CHANNEL [s]abcddd          |
| PCH      | THE SPECIFIED ACCESS POINT IS A PARITY CHANNEL                            |
| INERR    | MJU ssss DOES NOT EXIST IN THE CIRCUIT                                    |
| PTLA     | THE SPECIFIED TEST ACCESS POINT IS ALREADY<br>IN TLA MODE                 |
| NTLA     | THE SPECIFIED TEST ACCESS POINT IS ALREADY<br>IN TLR MODE                 |
| MPTM     | CUSTOMER IS NOT SPECIFIED FOR THE DS0B CHANNEL                            |
| INERR    | CHANNEL [s]abcddd IS NOT A MULTIPOINT MASTER LEG                          |
| INERR    | THE SPECIFIED NPC [s]abc IS NOT FACILITY<br>TERMINATING TYPE              |
| MCOND    | UNIT [q]q IS NOT FACILITY TERMINATING TYPE                                |
| MCOND    | BOTH CCN SIDES ARE OUT-OF-SERVICE                                         |
| MCOND    | ACTIVE CCN SIDE s IS OUT-OF -SERVICE                                      |
| OOS      | THE TEST PORT GROUP NPC [s]abc IS OUT-OF-SERVICE                          |
| MCOND    | INACTIVE CCN SIDE IN-SERVICE AND NPC [s]abc ON<br>INACTIVE<br>SIDE IS OOS |
| F OOS    | THE FROM SIDE NPC [s]abc IS OUT-OF-SERVICE                                |
| T OOS    | THE TO SIDE NPC [s]abc IS OUT-OF-SERVICE                                  |
| MCOND    | CCNI s IS OUT-OF-SERVICE                                                  |
| MCOND    | TSI sft IS OUT-OF-SERVICE                                                 |
| MCOND    | CCB sf IS OUT-OF-SERVICE                                                  |
| MCOND    | CCI s IS OUT-OF-SERVICE                                                   |
| MCOND    | ETSI sqq IS OUT-OF-SERVICE                                                |
| MCOND    | UNIT [q]q IS OUT-OF-SERVICE                                               |
| MCOND    | UNIT [q]q FTMI d IS OUT-OF-SERVICE                                        |
| MCOND    | UNIT [q]q FC sb IS OUT-OF-SERVICE                                         |
| MCOND    | DSPI IN UNIT [q]q IS OUT-OF-SERVICE                                       |
| MCOND    | NPC [s]abc SIDE s IS OUT-OF-SERVICE                                       |

|            |                                                             |
|------------|-------------------------------------------------------------|
| INERR      | THE SPECIFIED TEST PORT CANNOT BE USED FOR SR CIRCUITS      |
| INERR      | TESTPORTS IN THIS GROUP INVALID FOR SR CIRCUIT              |
| MCOND      | ACTIVE CCN SIDE s IS FAILED                                 |
| MCOND      | ACTIVE CCN SIDE s IS PESTED                                 |
| FAIL       | THE TEST PORT GROUP NPC [s]abc IS FAILED                    |
| F FAIL     | THE FROM SIDE NPC [s]abc IS FAILED                          |
| T FAIL     | THE TO SIDE NPC [s]abc IS FAILED                            |
| MCOND      | CCNI s IS FAILED                                            |
| MCOND      | TSI sft IS FAILED                                           |
| MCOND      | CCB sf IS FAILED                                            |
| MCOND      | CCI s IS FAILED                                             |
| MCOND      | ETSI sqq IS FAILED                                          |
| MCOND      | UNIT [q]q IS FAILED                                         |
| MCOND      | UNIT [q]q FTMI d IS FAILED                                  |
| MCOND      | UNIT [q]q FC sb IS FAILED                                   |
| MCOND      | DSPI IN UNIT [q]q IS FAILED                                 |
| MCOND      | NPC [s]abc SIDE s IS FAILED                                 |
| ASGN       | THE SPECIFIED TEST PORT IS UNDER TEST                       |
| UTST       | THE SPECIFIED ACCESS POINT IS UNDER TEST                    |
| CH NOT EST | THE SPECIFIED ACCESS POINT IS NOT ESTABLISHED TO SR FEATURE |
| MONITOR    | THE SPECIFIED TEST PORT IS ALREADY IN MONITOR MODE          |
| NUTST      | THE SPECIFIED TEST PORT IS UNASSIGNED                       |
| NA         | CONNECTION EXCEEDS REMAINING EC CAPACITY                    |

## **STST,MON,TO,TP**

### **SUBRATE TEST ACCESS**

#### **Explanation Of Command**

This command requests a change of test port **kk** to the monitor mode for a Subrate circuit. [Note: The format of this command is compatible with DACS/SRDC.] In this mode, data transmission in the tested circuit is not interrupted.

The named external facility termination can be part of a two-point circuit or the master leg or branch termination of a multipoint circuit. (See STST,MON,TO,MJU,BR for a monitor command that specifies the test point in terms of MJU and branch numbers.)

If the test access point specified is established to the Subrate feature but not cross-connected, the output message will contain the keyword **UNMAPPED**. When the test access point is unmapped, no signal is connected to the odd test port channel. A **DS0B** channel is always considered mapped, even when there are no customers cross-connected to it. In this case, the even test port faces the external facility and the odd test port faces the internal subrate multiplexer hardware.

This command can also be entered by using the **TTST** verb. In the case where an external facility termination is specified, no customer number can be present or the command will be denied. This limits this case to testing either entire **DS0B** channels or nonmultiplexed **DS0A** channels. If the Subrate circuit is already under test, the **TTST** verb can be used to place any type of Subrate termination in the monitor mode. In all cases, the resulting output format is the same as that for the **STST** command except for the substitution of the **TTST** verb for the **STST** verb.

This command also overrides any static trunk conditioning that may have been specified for the test port. The test port is given TRSP,MUX trunk conditioning for the duration of the

Substrate test access and returned to its previous trunk conditioning state upon release.

### **Command**

---

#### **Nonhierarchical**

---

[I.19601]

STST:FRM xy,SEQ ww:MON[,TO [s]abcddd[/ff]],TP kk!

#### **Hierarchical**

---

[I.19601]

STST:FRM xy,SEQ ww:MON[,TO uvmnpddd[/ff]],TP kk!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.19601]

M hh:mm:ss xy,ww n[vv] STST MON [s]abcddd[/ff] RATE rr TP kk\  
[ UNMAPPED] LOOPED] 2 LN MSG:  
CGA (ftp) TLA s COMPL

[O.19602]

M hh:mm:ss xy,ww n[vv] STST MON [s]abcddd DS0B nn TP kk \  
CGA (0tp) TLA s COMPL

#### **Hierarchical**

---

[O.19601]

M hh:mm:ss xy,ww n[vv] STST MON uvmnpddd[/ff] RATE rr TP kk\  
[ UNMAPPED] LOOPED] 2 LN MSG:  
CGA (ftp) TLA s COMPL

[O.19602]

M hh:mm:ss xy,ww n[vv] STST MON uvmnpddd DS0B nn TP kk \  
CGA (0tp) TLA s COMPL

### **Denial Message**

---

### **Nonhierarchical**

---

[O.19601.01]

M hh:mm:ss xy,ww n[vv] STST MON[ [s]abcddd[/ff]] TP kk \  
<reason 1> 2 LN MSG:  
<reason 2> DNY

### **Hierarchical**

---

[O.19601.01]

M hh:mm:ss xy,ww n[vv] STST MON[ uvmnpddd[/ff]] TP kk \  
<reason 1> 2 LN MSG:  
<reason 2> DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number of the circuit side  
to be connected to the TO test port channel

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |



|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number of the circuit side to be connected to the TO test port channel

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number of the circuit side connected to the TO test port channel

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - Customer number of the circuit side connected to the TO test port channel

01 (DS0A at 2.4, 4.8, 9.6, or 56 kb/s)  
01-20 (DS0B at 2.4 kb/s)  
01-10 (DS0B at 4.8 kb/s)  
01-05 (DS0B at 9.6 kb/s)

**kk** - Test port number (01 through 96)

kk is used to indicate the test port number to be used for test access to the circuit.

**MON** - Monitor

If the test port is in the released mode, the **[s]abcddd[/ff]** external facility termination must be specified. This termination is connected to the even test port channel. If the test port already has a Subrate circuit under test, the external facility termination must not be specified or the command will be denied.

Variable **[s]abcddd/ff** specifies the NPC, channel, and customer numbers to be connected to the test port. If a multiplexed DS0B channel is tested, the customer number **ff** is omitted. To test a single customer in the DS0B channel, the customer number field must be specified. When the tested channel is a nonmultiplexed (DS0A) channel, the customer number is listed as **01**, or if the user prefers, the customer number can be omitted and the system will default the value to 01.

**RATE** - Circuit rate  
**rr** - Circuit rate value (24, 48, 96, or 56)

rr indicates the customer rate of the circuit. If the circuit is mapped; i.e., subrate cross-connected, the listed RATE is equal to the subrate cross-connect rate. For unmapped circuits, in which case the **UNMAPPED** keyword appears in the output, the listed rate depends on the type of test access point. If test access is to a DS0A established channel, the establish channel rate is listed. If the access is to an unconnected subrate channel of a DS0B, the listed rate is the maximum subrate supported by the DS0B. If the circuit is mapped; that is, subrate cross-connected, the listed RATE is equal to the subrate cross-connect rate.

**CGA** - Carrier group alarm

**ftp** - CGA status

ftp defines the alarm status of the FROM, TO, and test port facilities, respectively. In the case where the FROM side of the test access faces the master leg of a multipoint circuit, the corresponding FROM CGA status is always listed as "0"; i.e., no alarm. If the test access is associated with a branch of a multipoint circuit, in which case the FROM side faces upstream towards an MJU, the CGA status of the circuit's master leg facility is listed in the FROM field.

**f** - FROM CGA state

*f*      *Explanation*

F      FROM facility in CGA  
0      FROM facility is not in CGA

**t** - TO CGA state

*t*      *Explanation*

T      TO facility in CGA  
0      TO facility is not in CGA

**p** - Test port digroup CGA state

*p*      *Explanation*

P      Test port digroup in CGA  
0      Test port digroup is not in CGA

**DS0B**   - Subrate customer channel

**nn**      - Number of subrate customer channels (05, 10, or 20)

**TLA**    - Terminate and leave activate

**s**        - Termination state of the access point

s indicates the terminate and leave status of the test access point.  
s states whether the access point is terminated in the FROM, TO, or  
BOTH, directions, or whether all terminations are released. The user  
should note that unmapped or looped access points cannot be terminated.

*s            Explanation*

B      BOTH sides are terminated  
F      FROM side is terminated  
R      Neither side is terminated  
T      TO side is terminated

**LPD**    - Looped

Appears in the case of a two-point circuit that is looped on itself.

**[s]abcddd/ff**

- External facility termination connected to the TO test port  
channel

**reason 1**

- Coded reason for denial

**reason 2**

- Explanation of reason 1

**reason 1**

INERR  
UEQD  
F UEQD  
T UEQD  
MCOND  
MCOND  
MCOND  
MCOND  
MCOND  
MCOND  
MCOND  
MCOND  
MCOND  
MCOND  
RNGIE  
CN RATE

CN RATE

PCH  
INERR  
MCOND  
MCOND  
MCOND  
OOS  
MCOND

F OOS  
T OOS  
MCOND  
MCOND  
MCOND  
MCOND  
MCOND  
MCOND  
MCOND  
MCOND  
MCOND  
MCOND  
MCOND  
MCOND  
INERR  
INERR

**reason 2**

THE SPECIFIED TEST PORT IS NOT EQUIPPED  
THE TEST PORT GROUP NPC [s]abc IS NOT EQUIPPED  
THE FROM SIDE NPC [s]abc IS NOT EQUIPPED  
THE TO SIDE NPC [s]abc IS NOT EQUIPPED  
TSI sft IS NOT EQUIPPED  
CCB sf IS NOT EQUIPPED  
ETSI sqq IS NOT EQUIPPED  
UNIT [q]q IS NOT EQUIPPED  
UNIT [q]q FTMI d IS NOT EQUIPPED  
UNIT [q]q FC sb IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED  
NO DSPU IS EQUIPPED  
NO SRM OR MJU TYPE NPC IS EQUIPPED  
CHANNEL NUMBER ddd IS OUT OF RANGE FOR NPC [s]abc  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0B  
CHANNEL [s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0A  
CHANNEL [s]abcddd  
THE SPECIFIED ACCESS POINT IS A PARITY CHANNEL  
THE SPECIFIED NPC [s]abc IS NOT FACILITY TERMINATING TYPE  
UNIT [q]q IS NOT FACILITY TERMINATING TYPE  
BOTH CCN SIDES ARE OUT-OF-SERVICE  
ACTIVE CCN SIDE s IS OUT-OF -SERVICE  
THE TEST PORT GROUP NPC [s]abc IS OUT-OF-SERVICE  
INACTIVE CCN SIDE IN-SERVICE AND NPC [s]abc ON INACTIVE  
SIDE IS OOS  
THE FROM SIDE NPC [s]abc IS OUT-OF-SERVICE  
THE TO SIDE NPC [s]abc IS OUT-OF-SERVICE  
CCNI s IS OUT-OF-SERVICE  
TSI sft IS OUT-OF-SERVICE  
CCB sf IS OUT-OF-SERVICE  
CCI s IS OUT-OF-SERVICE  
ETSI sqq IS OUT-OF-SERVICE  
UNIT [q]q IS OUT-OF-SERVICE  
UNIT [q]q FTMI d IS OUT-OF-SERVICE  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
NPC [s]abc SIDE s IS OUT-OF-SERVICE  
THE SPECIFIED TEST PORT CANNOT BE USED FOR SR CIRCUITS  
TESTPORTS IN THIS GROUP INVALID FOR SR CIRCUIT

|            |                                                                |
|------------|----------------------------------------------------------------|
| MCOND      | ACTIVE CCN SIDE s IS FAILED                                    |
| MCOND      | ACTIVE CCN SIDE s IS PESTED                                    |
| FAIL       | THE TEST PORT GROUP NPC [s]abc IS FAILED                       |
| F FAIL     | THE FROM SIDE NPC [s]abc IS FAILED                             |
| T FAIL     | THE TO SIDE NPC [s]abc IS FAILED                               |
| MCOND      | CCNI s IS FAILED                                               |
| MCOND      | TSI sft IS FAILED                                              |
| MCOND      | CCB sf IS FAILED                                               |
| MCOND      | CCI s IS FAILED                                                |
| MCOND      | ETSI sqq IS FAILED                                             |
| MCOND      | UNIT [q]q IS FAILED                                            |
| MCOND      | UNIT [q]q FTMI d IS FAILED                                     |
| MCOND      | UNIT [q]q FC sb IS FAILED                                      |
| MCOND      | DSPI IN UNIT [q]q IS FAILED                                    |
| MCOND      | NPC [s]abc SIDE s IS FAILED                                    |
| ASGN       | THE SPECIFIED TEST PORT IS UNDER TEST                          |
| UTST       | THE SPECIFIED ACCESS POINT IS UNDER TEST                       |
| CH NOT EST | THE SPECIFIED ACCESS POINT IS NOT ESTABLISHED TO<br>SR FEATURE |
| MONITOR    | THE SPECIFIED TEST PORT IS ALREADY IN MONITOR MODE             |
| NUTST      | THE SPECIFIED TEST PORT IS UNASSIGNED                          |
| NA         | CONNECTION EXCEEDS REMAINING EC CAPACITY                       |

## **STST,SPL,TO,MJU,TP**

### **SUBRATE TEST ACCESS SPLIT**

#### **Explanation Of Command**

This command requests split test access on a test port to a Subrate multipoint circuit.

This command overrides any static trunk conditioning that may have been specified for the test port. The test port is given TRSP,MUX trunk conditioning for the duration of the subrate test access and returned to its previous trunk conditioning state upon release.

The master leg of the multipoint circuit is specified by network processing circuit, channel, and customer number and serves as the circuit reference for the multipoint junction unit named in the command.

#### **Command**

##### **Nonhierarchical**

[I.19651]

**STST:FRM xy,SEQ ww:SPL,TO [s]abcddd[/ff],MJU ssss,[BRi,],TP kk!**

##### **Hierarchical**

[I.19651]

**STST:FRM xy,SEQ ww:SPL,TO uvmnpddd[/ff],MJU ssss,[BRi,],TP kk!**

## **Completion Message**

---

### **Nonhierarchical**

---

[O.19651]

M hh:mm:ss xy,ww n[vv] STST SPL MPTM [s]abcddd/ff MJU ssss\  
[ BRi] 2 LN MSG:  
RATE rr TP kk[ UNMAPPED] CGA (ftp) TLA s COMPL

### **Hierarchical**

---

[O.19651]

M hh:mm:ss xy,ww n[vv] STST SPL MPTM uvmnpddd/ff MJU ssss\  
[ BRi] 2 LN MSG:  
RATE rr TP kk[ UNMAPPED] CGA (ftp) TLA s COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.19651.01]

M hh:mm:ss xy,ww n[vv] STST SPL MPTM [s]abcddd/ff \  
MJU ssss[ BRi] <reason 1> 2 LN MSG:  
<reason 2> DNY

### **Hierarchical**

---

[O.19651.01]

M hh:mm:ss xy,ww n[vv] STST SPL MPTM uvmnpddd/ff \  
MJU ssss[ BRi] <reason 1> 2 LN MSG:  
<reason 2> DNY

## **Autonomous Message**

---

Not applicable.



## Explanation Of Parameters

|               |                                                                                                          |
|---------------|----------------------------------------------------------------------------------------------------------|
| <b>SPL</b>    | - Split test access                                                                                      |
| <b>TO</b>     | - To Termination                                                                                         |
| <b>[s]abc</b> | - The 3- or 4-digit nonhierarchical NPC number of TO external facility termination of circuit master leg |

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

|                              |                              |                              |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number of TO external facility termination of circuit master leg

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number of the multipoint circuit master leg

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - Customer number of the multipoint circuit master leg

|       |                                     |
|-------|-------------------------------------|
| 01    | (DS0A at 2.4, 4.8, 9.6, or 56 kb/s) |
| 01-20 | (DS0B at 2.4 kb/s)                  |
| 01-10 | (DS0B at 4.8 kb/s)                  |
| 01-05 | (DS0B at 9.6 kb/s)                  |

The optional customer number **ff** is required when the master leg of the multipoint circuit is a customer within a multiplexed DS0B channel. When the master leg is a nonmultiplexed (DS0A) channel, the customer number is listed as **01**, or if the user prefers, the customer number can be omitted and the system will default the value to 01.

The external facility termination of the circuit is given by the NPC, channel, and customer number for the master leg of the multipoint circuit. Note that this is *not* the facility defined as the TO side of the circuit.

**MJU** - Multipoint junction unit

**ssss** - MJU number of accessed MJU (0001 through 9999)

The TO test port is connected to an MJU defined by **ssss**.

If MJU 0001 is specified, the TO test port faces the control leg of MJU 0001 and the FROM test port faces the master leg external facility termination. If an MJU number other than 0001 is specified and a branch has not been entered, the TO side faces towards the control leg of the specified MJU and the FROM side faces upstream towards the branch of a cascaded MJU.

If branch *i* was specified then branch *i* of MJU **ssss** is connected to the TO test port and the FROM side faces downstream.

**BR** - Branch

**i** - Branch number of MJU **ssss** (1 through 4)

If the **BRi** field is present, the TO side faces upstream towards the indicated branch of the specified MJU and the FROM side faces downstream, either towards another MJU or towards an external facility termination.

**TP** - Test port

**kk** - Test port number (01 through 96)

kk indicates the test port number used for test access to the circuit.

#### **UNMAPPED**

- Unmapped

This keyword will be output if the test access point specified is not cross-connected. (This situation can occur only when test access to a branch is specified.) When the test access point is unmapped, no signal is connected to the odd test port channel.

**TLA** - Terminate and leave activate

**s** - Termination state of the access point

s defines whether the access point is terminated in the FROM, TO, or BOTH, directions, or whether all terminations are released. The user should note that unmapped access points cannot be terminated.

| <i>s</i> | <i>Explanation</i>                   |
|----------|--------------------------------------|
| R        | Released. Neither side is terminated |
| F        | FROM side is terminated              |
| T        | TO side is terminated                |
| B        | BOTH sides are terminated            |

**RATE** - Rate

**rr** - Transmission rate specification

**rr**      *rate in kb/s*

|           |     |
|-----------|-----|
| <b>24</b> | 2.4 |
| <b>48</b> | 4.8 |
| <b>96</b> | 9.6 |
| <b>56</b> | 56  |

The customer rate of the circuit is indicated by rr. If the access is to an unconnected or unmapped branch the listed rate is the same as the rest of the multipoint circuit.

**MPTM** - Multipoint master

The multipoint master leg of the circuit is specified by the termination number which consists of the NPC, channel, and customer numbers combined. Note that this is *not* the facility connected to the TO side of the test port.

**CGA** - Carrier group alarm

**ftp** - Alarm status, FROM, TO, and test port, respectively

The side of the test access port that faces the control leg of an MJU (that is, downstream) always has the corresponding CGA status listed as "0"; indicating no alarm. The CGA status of a side facing upstream corresponds to the status of the circuit's master leg facility.

**f** - FROM CGA state

*f*      *Explanation*

F      FROM facility in CGA

0      FROM facility is not in CGA

**t** - TO CGA state

*t*      *Explanation*

T      TO facility in CGA

0      TO facility is not in CGA

**p** - Test port digroup CGA state

*p*      *Explanation*

P      Test port digroup in CGA

0      Test port digroup is not in CGA

reason 1

- Coded reason for denial

reason 2

- Explanation of reason 1

| reason 1 | reason 2                                                               |
|----------|------------------------------------------------------------------------|
| INERR    | THE SPECIFIED TEST PORT IS NOT EQUIPPED                                |
| UEQD     | THE TEST PORT GROUP NPC [s]abc IS NOT EQUIPPED                         |
| F UEQD   | THE FROM SIDE NPC [s]abc IS NOT EQUIPPED                               |
| T UEQD   | THE TO SIDE NPC [s]abc IS NOT EQUIPPED                                 |
| MCOND    | TSI sft IS NOT EQUIPPED                                                |
| MCOND    | CCB sf IS NOT EQUIPPED                                                 |
| MCOND    | ETSI sqq IS NOT EQUIPPED                                               |
| MCOND    | UNIT [q]q IS NOT EQUIPPED                                              |
| MCOND    | UNIT [q]q FTMI d IS NOT EQUIPPED                                       |
| MCOND    | UNIT [q]q FC sb IS NOT EQUIPPED                                        |
| MCOND    | NPC [s]abc IS NOT EQUIPPED                                             |
| MCOND    | NO DSPU IS EQUIPPED                                                    |
| MCOND    | NO SRM OR MJU TYPE NPC IS EQUIPPED                                     |
| RNGIE    | CHANNEL NUMBER ddd IS OUT OF RANGE FOR NPC [s]abc                      |
| CN RATE  | CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0B<br>CHANNEL [s]abccddd      |
| CN RATE  | CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0A<br>CHANNEL [s]abccddd      |
| INERR    | MJU ssss DOES NOT EXIST IN THE CIRCUIT                                 |
| PCH      | THE SPECIFIED ACCESS POINT IS A PARITY CHANNEL                         |
| PTLA     | THE SPECIFIED TEST ACCESS POINT IS ALREADY IN TLA MODE                 |
| NTLA     | THE SPECIFIED TEST ACCESS POINT IS ALREADY IN TLR MODE                 |
| MPTM     | CUSTOMER IS NOT SPECIFIED FOR THE DS0B CHANNEL                         |
| INERR    | CHANNEL [s]abccddd IS NOT A MULTIPOINT MASTER LEG                      |
| INERR    | THE SPECIFIED NPC [s]abc IS NOT FACILITY TERMINATING TYPE              |
| MCOND    | UNIT [q]q IS NOT FACILITY TERMINATING TYPE                             |
| INERR    | TESTPORTS IN THIS GROUP INVALID FOR SR CIRCUIT                         |
| MCOND    | BOTH CCN SIDES ARE OUT-OF-SERVICE                                      |
| MCOND    | ACTIVE CCN SIDE s IS OUT-OF -SERVICE                                   |
| OOS      | THE TEST PORT GROUP NPC [s]abc IS OUT-OF-SERVICE                       |
| MCOND    | INACTIVE CCN SIDE IN-SERVICE AND NPC [s]abc ON INACTIVE<br>SIDE IS OOS |
| F OOS    | THE FROM SIDE NPC [s]abc IS OUT-OF-SERVICE                             |
| T OOS    | THE TO SIDE NPC [s]abc IS OUT-OF-SERVICE                               |
| MCOND    | CCNI s IS OUT-OF-SERVICE                                               |
| MCOND    | TSI sft IS OUT-OF-SERVICE                                              |
| MCOND    | CCB sf IS OUT-OF-SERVICE                                               |
| MCOND    | CCI s IS OUT-OF-SERVICE                                                |
| MCOND    | ETSI sqq IS OUT-OF-SERVICE                                             |
| MCOND    | UNIT [q]q IS OUT-OF-SERVICE                                            |
| MCOND    | UNIT [q]q FTMI d IS OUT-OF-SERVICE                                     |
| MCOND    | UNIT [q]q FC sb IS OUT-OF-SERVICE                                      |
| MCOND    | DSPI IN UNIT [q]q IS OUT-OF-SERVICE                                    |
| MCOND    | NPC [s]abc SIDE s IS OUT-OF-SERVICE                                    |
| MCOND    | ACTIVE CCN SIDE s IS FAILED                                            |
| MCOND    | ACTIVE CCN SIDE s IS PESTED                                            |
| FAIL     | THE TEST PORT GROUP NPC [s]abc IS FAILED                               |

|            |                                                                |
|------------|----------------------------------------------------------------|
| F FAIL     | THE FROM SIDE NPC [s]abc IS FAILED                             |
| T FAIL     | THE TO SIDE NPC [s]abc IS FAILED                               |
| MCOND      | CCNI s IS FAILED                                               |
| MCOND      | TSI sft IS FAILED                                              |
| MCOND      | CCB sf IS FAILED                                               |
| MCOND      | CCI s IS FAILED                                                |
| MCOND      | ETSI sqq IS FAILED                                             |
| MCOND      | UNIT [q]q IS FAILED                                            |
| MCOND      | UNIT [q]q FTMI d IS FAILED                                     |
| MCOND      | UNIT [q]q FC sb IS FAILED                                      |
| MCOND      | DSPI IN UNIT [q]q IS FAILED                                    |
| MCOND      | NPC [s]abc SIDE s IS FAILED                                    |
| ASGN       | THE SPECIFIED TEST PORT IS UNDER TEST                          |
| UTST       | THE SPECIFIED ACCESS POINT IS UNDER TEST                       |
| CH NOT EST | THE SPECIFIED ACCESS POINT IS NOT ESTABLISHED TO<br>SR FEATURE |
| NMON       | THE SPECIFIED TEST PORT IS ALREADY IN SPLIT MODE               |
| NMON       | A DS-OB CHANNEL CANNOT BE SPLIT UNLESS MONITORED FIRST         |
| NUTST      | THE SPECIFIED TEST PORT IS UNASSIGNED                          |
| NA         | CONNECTION EXCEEDS REMAINING EC CAPACITY                       |



## **STST,SPL,TO,TP**

### **SUBRATE SPLIT TEST ACCESS**

#### **Explanation Of Command**

This command connects a subrate circuit to test port **kk** and places it in the split mode. In this mode, data transmission in the tested circuit is interrupted.

The user must specify the termination number (digroup, channel, and customer numbers) to be connected to the test port. To test a single customer in a DS0B channel, the customer number is required.

Split test access to an entire multiplexed DS0B channel (rather than a single DS0B customer) can only be done by first monitoring the channel and then splitting it by use of this command without a digroup and channel number. When the tested channel is a nonmultiplexed (DS0A) channel, the customer number is entered as **01**, or if the user prefers, the customer number can be omitted and the system will default the value to **01**.

The specified termination can be part of a two-point circuit or the master leg or branch termination of a multipoint circuit.

The TTST,SPL,TP command can also be used to perform this function however the command will be denied if the customer number is specified.

The TTST command is limited to testing only nonmultiplexed DS0A channels. If the subrate circuit is already under test, the TTST command can be used to place any type of subrate termination in the split mode.

This command overrides any static trunk conditioning that may have been specified for the test port. The test port is given TRSP,MUX trunk conditioning for the duration of the subrate test access, and returned to its previous trunk conditioning state upon release.

**CAUTION:** Split test access to a **DS0B** channel can potentially cause loss of service to

as many as 20 subrate customers.

### **Command**

---

#### **Nonhierarchical**

---

[I.19631]

STST:FRM xy,SEQ ww:SPL[,TO [s]abcddd[/ff]],TP kk!

#### **Hierarchical**

---

[I.19631]

STST:FRM xy,SEQ ww:SPL[,TO uvmnpddd[/ff]],TP kk!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.19631]

M hh:mm:ss xy,ww n[vv] STST SPL [s]abcddd/ff RATE rr TP kk\  
[ UNMAPPED| LOOPED] 2 LN MSG:  
CGA (ftp) TLA s COMPL

[O.19632]

M hh:mm:ss xy,ww n[vv] STST SPL [s]abcddd DS0B nn TP kk \  
CGA (0tp) TLA s COMPL

#### **Hierarchical**

---

[O.19631]

M hh:mm:ss xy,ww n[vv] STST SPL uvmnpddd/ff RATE rr TP kk\  
[ UNMAPPED| LOOPED] 2 LN MSG:  
CGA (ftp) TLA s COMPL

[O.19632]

M hh:mm:ss xy,ww n[vv] STST SPL uvmnpddd DS0B nn TP kk \  
CGA (0tp) TLA s COMPL

### Denial Message

---

### Nonhierarchical

---

[O.19631.01]

M hh:mm:ss xy,ww n[vv] STST SPL[ [s]abcddd/ff] TP kk \  
<reason 1> 2 LN MSG:  
<reason 2> DNY

### Hierarchical

---

[O.19631.01]

M hh:mm:ss xy,ww n[vv] STST SPL[ uvmnpddd/ff] TP kk \  
<reason 1> 2 LN MSG:  
<reason 2> DNY

### Autonomous Message

---

Not applicable.

### Explanation Of Parameters

---

**SPL** - Split

**TO** - To

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number of the circuit side connected to the TO test port channel

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number of the circuit side connected to the TO test port channel

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The valid values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number of the circuit side connected to the TO test port channel

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - Customer number of the circuit side connected to the TO test port channel

01 (DS0A at 2.4, 4.8, 9.6, or 56 kb/s)  
01-20 (DS0B at 2.4 kb/s)  
01-10 (DS0B at 4.8 kb/s)  
01-05 (DS0B at 9.6 kb/s)

**TP** - Test port

**kk** - Test port number (01 through 96)

The **TP kk** field indicates the test port number used for test access to the channel.

If the test port is in the released mode, [s]abcddd[/ff] or uvmnpddd[/ff] must be specified. This termination is connected to the even test port channel. If the test port already has a Subrate circuit under test, the external facility termination must not be specified or the command will be denied.

#### UNMAPPED

- Unmapped

**UNMAPPED** appears in the output message if the test access point specified is established to the subrate feature but not cross-connected. When the test access point is unmapped, no signal is connected to the odd test port channel.

A DS0B channel is always considered mapped, even when there are no customers cross-connected to it. In this case, the even test port faces the external facility and the odd test port faces the internal subrate multiplexer hardware.

**DS0B** - Digital Signal 0B

**nn** - Number of subrate customer channels (05, 10, or 20)

**LOOPED** - Looped

The two-point circuit is looped upon itself.

**RATE** - Customer rate

**rr** - Circuit rate (24, 48, 96, or 56)

If the circuit is mapped; that is, subrate cross-connected the listed RATE is equal to the subrate cross-connect rate. For unmapped circuits, in which case the **UNMAPPED** keyword appears in the output, the listed rate depends on the type of test access point. If test access is to a DS0A established channel, the establish channel rate is listed. If the access is to an unconnected subrate channel of a DS0B, the listed rate is the maximum subrate supported by the DS0B.

**CGA** - Carrier group alarm

**ftp** - FROM, TO, and test port CGA status, respectively

Where the FROM side of the test access faces the master leg of a multipoint circuit, the corresponding FROM CGA status is always listed as "0"; indicating no alarm. If the test access is associated with a branch of a multipoint circuit, in which case the FROM side faces upstream towards an MJU, the CGA status of the circuit's master leg facility is listed in the FROM field.

**f** - FROM CGA state

*f* Explanation

F FROM facility in CGA

0 FROM facility is not in CGA

**t** - TO CGA state

*t* Explanation

T TO facility in CGA

0 TO facility is not in CGA

**p** - Test port digroup CGA state

*p* Explanation

P Test port digroup in CGA

0 Test port digroup is not in CGA

**TLA** - Terminate and leave active

**s** - Termination state of the access point

For DS0B access points  $s = R$  since such access points cannot be terminated.

| <i>s</i> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|   |                                      |
|---|--------------------------------------|
| R | RELEASED. Neither side is terminated |
|---|--------------------------------------|

|   |                         |
|---|-------------------------|
| F | FROM side is terminated |
|---|-------------------------|

|   |                       |
|---|-----------------------|
| T | TO side is terminated |
|---|-----------------------|

|   |                           |
|---|---------------------------|
| B | BOTH sides are terminated |
|---|---------------------------|

**LPD** - Looped

reason 1

- Coded reason for denial

reason 2

- Explanation of reason 1



| reason 1 | reason 2                                                               |
|----------|------------------------------------------------------------------------|
| INERR    | THE SPECIFIED TEST PORT IS NOT EQUIPPED                                |
| UEQD     | THE TEST PORT GROUP NPC [s]abc IS NOT EQUIPPED                         |
| F UEQD   | THE FROM SIDE NPC [s]abc IS NOT EQUIPPED                               |
| T UEQD   | THE TO SIDE NPC [s]abc IS NOT EQUIPPED                                 |
| MCOND    | TSI sft IS NOT EQUIPPED                                                |
| MCOND    | CCB sf IS NOT EQUIPPED                                                 |
| MCOND    | ETSI sqq IS NOT EQUIPPED                                               |
| MCOND    | UNIT [q]q IS NOT EQUIPPED                                              |
| MCOND    | UNIT [q]q FTMI d IS NOT EQUIPPED                                       |
| MCOND    | UNIT [q]q FC sb IS NOT EQUIPPED                                        |
| MCOND    | NPC [s]abc IS NOT EQUIPPED                                             |
| MCOND    | NO DSPU IS EQUIPPED                                                    |
| MCOND    | NO SRM OR MJU TYPE NPC IS EQUIPPED                                     |
| RNGIE    | CHANNEL NUMBER ddd IS OUT OF RANGE FOR NPC [s]abc                      |
| CN RATE  | CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0B<br>CHANNEL [s]abcddd       |
| CN RATE  | CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0A<br>CHANNEL [s]abcddd       |
| PCH      | THE SPECIFIED ACCESS POINT IS A PARITY CHANNEL                         |
| INERR    | TESTPORTS IN THIS GROUP INVALID FOR SR CIRCUIT                         |
| INERR    | THE SPECIFIED NPC [s]abc IS NOT FACILITY TERMINATING TYPE              |
| MCOND    | UNIT [q]q IS NOT FACILITY TERMINATING TYPE                             |
| MCOND    | BOTH CCN SIDES ARE OUT-OF-SERVICE                                      |
| MCOND    | ACTIVE CCN SIDE s IS OUT-OF -SERVICE                                   |
| OOS      | THE TEST PORT GROUP NPC [s]abc IS OUT-OF-SERVICE                       |
| MCOND    | INACTIVE CCN SIDE IN-SERVICE AND NPC [s]abc ON INACTIVE<br>SIDE IS OOS |
| F OOS    | THE FROM SIDE NPC [s]abc IS OUT-OF-SERVICE                             |
| T OOS    | THE TO SIDE NPC [s]abc IS OUT-OF-SERVICE                               |
| MCOND    | CCNI s IS OUT-OF-SERVICE                                               |
| MCOND    | TSI sft IS OUT-OF-SERVICE                                              |
| MCOND    | CCB sf IS OUT-OF-SERVICE                                               |
| MCOND    | CCI s IS OUT-OF-SERVICE                                                |
| MCOND    | ETSI sqq IS OUT-OF-SERVICE                                             |
| MCOND    | UNIT [q]q IS OUT-OF-SERVICE                                            |
| MCOND    | UNIT [q]q FTMI d IS OUT-OF-SERVICE                                     |
| MCOND    | UNIT [q]q FC sb IS OUT-OF-SERVICE                                      |
| MCOND    | DSPI IN UNIT [q]q IS OUT-OF-SERVICE                                    |
| MCOND    | NPC [s]abc SIDE s IS OUT-OF-SERVICE                                    |
| INERR    | THE SPECIFIED TEST PORT CANNOT BE USED FOR SR CIRCUITS                 |
| MCOND    | ACTIVE CCN SIDE s IS FAILED                                            |
| MCOND    | ACTIVE CCN SIDE s IS PESTED                                            |
| FAIL     | THE TEST PORT GROUP NPC [s]abc IS FAILED                               |

|            |                                                                                                                                                                                                                                             |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| F FAIL     | THE FROM SIDE NPC [s]abc IS FAILED                                                                                                                                                                                                          |
| T FAIL     | THE TO SIDE NPC [s]abc IS FAILED                                                                                                                                                                                                            |
| MCOND      | CCNI s IS FAILED                                                                                                                                                                                                                            |
| MCOND      | TSI sft IS FAILED                                                                                                                                                                                                                           |
| MCOND      | CCB sf IS FAILED                                                                                                                                                                                                                            |
| MCOND      | CCI s IS FAILED                                                                                                                                                                                                                             |
| MCOND      | ETSI sqq IS FAILED                                                                                                                                                                                                                          |
| MCOND      | UNIT [q]q IS FAILED                                                                                                                                                                                                                         |
| MCOND      | UNIT [q]q FTMI d IS FAILED                                                                                                                                                                                                                  |
| MCOND      | UNIT [q]q FC sb IS FAILED                                                                                                                                                                                                                   |
| MCOND      | DSPI IN UNIT [q]q IS FAILED                                                                                                                                                                                                                 |
| MCOND      | NPC [s]abc SIDE s IS FAILED                                                                                                                                                                                                                 |
| ASGN       | THE SPECIFIED TEST PORT IS UNDER TEST                                                                                                                                                                                                       |
| UTST       | THE SPECIFIED ACCESS POINT IS UNDER TEST                                                                                                                                                                                                    |
| CH NOT EST | THE SPECIFIED ACCESS POINT IS NOT ESTABLISHED TO<br>SR FEATURE                                                                                                                                                                              |
| NMON       | THE SPECIFIED TEST PORT IS ALREADY IN SPLIT MODE                                                                                                                                                                                            |
| NMON       | A DS-OB CHANNEL CANNOT BE SPLIT UNLESS MONITORED FIRST                                                                                                                                                                                      |
| NUTST      | THE SPECIFIED TEST PORT IS UNASSIGNED                                                                                                                                                                                                       |
| NA         | CONNECTION EXCEEDS REMAINING EC CAPACITY                                                                                                                                                                                                    |
| IDRG       | Input, data out of range<br><br>CHANNEL NUMBER ddd IS OUT OF RANGE FOR NPC [s]abc<br>CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0B<br>CHANNEL [s]abcddd<br>CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0A<br>CHANNEL [s]abcddd                   |
| IDNV       | Input, data not valid<br><br>THE SPECIFIED ACCESS POINT IS A PARITY CHANNEL<br>TESTPORTS IN THIS GROUP INVALID FOR SR CIRCUIT<br>THE SPECIFIED NPC [s]abc IS NOT FACILITY TERMINATING<br>TYPE<br>UNIT [q]q IS NOT FACILITY TERMINATING TYPE |

SNIS            Status,    not in-service

BOTH CCN SIDES ARE OUT-OF-SERVICE  
ACTIVE CCN SIDE s IS OUT-OF -SERVICE  
THE TEST PORT GROUP NPC [s]abc IS OUT-OF-SERVICE  
INACTIVE CCN SIDE IN-SERVICE AND NPC [s]abc ON INACTIVE  
SIDE IS OOS  
THE FROM SIDE NPC [s]abc IS OUT-OF-SERVICE  
THE TO SIDE NPC [s]abc IS OUT-OF-SERVICE  
CCNI s IS OUT-OF-SERVICE  
TSI sft IS OUT-OF-SERVICE  
CCB sf IS OUT-OF-SERVICE  
CCI s IS OUT-OF-SERVICE  
ETSI sqq IS OUT-OF-SERVICE  
UNIT [q]q IS OUT-OF-SERVICE  
UNIT [q]q FTMI d IS OUT-OF-SERVICE  
UNIT [q]q FC sb IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE  
NPC [s]abc SIDE s IS OUT-OF-SERVICE

SROF            Status, requested operation failed

THE SPECIFIED TEST PORT CANNOT BE USED FOR SR  
CIRCUITS  
ACTIVE CCN SIDE s IS FAILED  
ACTIVE CCN SIDE s IS PESTED  
THE TEST PORT GROUP NPC [s]abc IS FAILED  
THE FROM SIDE NPC [s]abc IS FAILED  
THE TO SIDE NPC [s]abc IS FAILED  
CCNI s IS FAILED  
TSI sft IS FAILED  
CCB sf IS FAILED  
CCI s IS FAILED  
ETSI sqq IS FAILED  
UNIT [q]q IS FAILED  
UNIT [q]q FTMI d IS FAILED  
UNIT [q]q FC sb IS FAILED  
DSPI IN UNIT [q]q IS FAILED  
NPC [s]abc SIDE s IS FAILED

|      |                           |                                                        |
|------|---------------------------|--------------------------------------------------------|
| SNVS | Status,                   | not in valid state                                     |
|      |                           | THE SPECIFIED TEST PORT IS UNDER TEST                  |
|      |                           | THE SPECIFIED ACCESS POINT IS UNDER TEST               |
|      |                           | THE SPECIFIED ACCESS POINT IS NOT ESTABLISHED TO       |
|      |                           | SR FEATURE                                             |
|      |                           | THE SPECIFIED TEST PORT IS ALREADY IN SPLIT MODE       |
|      |                           | A DS-OB CHANNEL CANNOT BE SPLIT UNLESS MONITORED FIRST |
| SNAS | Status, not assigned      |                                                        |
|      |                           | THE SPECIFIED TEST PORT IS UNASSIGNED                  |
| SARB | Status, all resource busy |                                                        |
|      |                           | CONNECTION EXCEEDS REMAINING EC CAPACITY               |

## **STST,TLA,TLR,TP**

### **SUBRATE TEST ACCESS**

#### **Explanation Of Command**

This command requests termination of a subrate circuit under test on test port **kk**. Before using this command, the circuit must be attached to a test port by use of either the STST,MON,TO,TP or the STST,SPL,TO,TP command.

This command can only be used on cross-connected two-point or multipoint circuits. It cannot be used during test access to entire **DS0B** channels or to unmapped (established but not cross-connected) external facility terminations and unmapped multipoint circuit branches. It also cannot be used for two-point circuits that are looped on themselves.

#### **Command**

[I.19661]

**STST:FRM xy,SEQ ww:{TLA|TLR} m,TP kk!**

#### **Completion Message**

#### **Nonhierarchical**

USAGE: For standard (DS0A) access points:

[O.19661]

**M hh:mm:ss xy,ww n[vv] STST {TLA|TLR} m [s]abcddd/ff RATE rr \  
TP kk 2 LN MSG:  
CGA (ftp) TLA s COMPL**

USAGE: For access points specified in terms of an MJU and (optional) branch number:

[O.19662]

M hh:mm:ss xy,ww n[vv] STST {TLA|TLR} m MPTM [s]abcddd/ff\  
MJU ssss[ BRi] 2 LN MSG:  
RATE rr TP kk CGA(ftp) TLA s COMPL

### **Hierarchical**

---

USAGE: For standard (DS0A) access points:

[O.19661]

M hh:mm:ss xy,ww n[vv] STST {TLA|TLR} m uvmnpddd/ff RATE rr \  
TP kk 2 LN MSG:  
CGA (ftp) TLA s COMPL

USAGE: For access points specified in terms of an MJU and (optional) branch number:

[O.19662]

M hh:mm:ss xy,ww n[vv] STST {TLA|TLR} m MPTM uvmnpddd/ff  
MJU ssss[ BRi] 2 LN MSG:  
RATE rr TP kk CGA(ftp) TLA s COMPL

### **Denial Message**

---

[O.19661.01]

M hh:mm:ss xy,ww n[vv] STST {TLA|TLR} m TP kk <reason 1> \  
2 LN MSG:  
<reason 2> DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

- TLA** - Terminate and leave activate  
**TLR** - Terminate and leave released  
**s** - The resulting terminate and leave state of the access point upon completion of the command.  
**m** - The requested TLA/TLR modification:

| <i>m</i> | <i>Explanation</i>              |
|----------|---------------------------------|
| F        | Terminate/release the FROM side |
| T        | Terminate/release the TO side   |
| B        | Terminate/release BOTH sides    |

m is used to specify the terminate and leave state change for either the FROM, TO, or BOTH direction(s) of the circuit. The TO side is defined as the side of the circuit connected to the even numbered test port channel, and the FROM side is connected to the odd numbered test port channel. The Unassigned Multiplexer Channel (UMC) control code is inserted in the direction towards the named circuit end(s).

| PRIOR STATE | REQUESTED CHANGE | NEW STATE | PRIOR STATE | REQUESTED CHANGE | NEW STATE |
|-------------|------------------|-----------|-------------|------------------|-----------|
| R           | TLA F            | F         | R           | TLR F            | DNY       |
| R           | TLA T            | T         | R           | TLR T            | DNY       |
| R           | TLA B            | B         | R           | TLR B            | DNY       |
| F           | TLA F            | DNY       | F           | TLR F            | R         |
| F           | TLA T            | B         | F           | TLR T            | DNY       |
| F           | TLA B            | B         | F           | TLR B            | R         |
| B           | TLA F            | DNY       | B           | TLR F            | T         |
| B           | TLA T            | DNY       | B           | TLR T            | F         |
| B           | TLA B            | DNY       | B           | TLR B            | R         |
| T           | TLA T            | DNY       | T           | T                | R         |
| T           | F                | B         | T           | F                | DNY       |
| T           | B                | B         | T           | B                | R         |

**TP** - Test Port

**kk** - Test port number (01 through 96)

kk indicates the test port number used for test access to the circuit.

**MJU** - Multipoint junction unit

**ssss** - MJU number of MJU under test (0001 through 9999)

**BR** - Branch

**i** - Branch number of MJU under test (1 through 4)

**ff** - Customer number of circuit under test, or of multipoint master leg

01 (DS0A at 2.4, 4.8, 9.6, or 56 kb/s)

01-20 (DS0B at 2.4 kb/s)

01-10 (DS0B at 4.8 kb/s)

01-05 (DS0B at 9.6 kb/s)

**[s]abc** - Nonhierarchical NPC number of the external facility termination connected to the TO test port channel or of multipoint master leg

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |



|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number of the external facility termination connected to the TO test port channel or of multipoint master leg

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The valid values are given below:

DE and DS type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number of the external facility termination connected to the TO test port channel or of multipoint master leg

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**RATE** - Rate

**rr** - Transmission rate specification

| <b>rr</b> | <i>rate in kb/s</i> |
|-----------|---------------------|
| <b>24</b> | 2.4                 |
| <b>48</b> | 4.8                 |
| <b>96</b> | 9.6                 |
| <b>56</b> | 56                  |

The customer rate of the circuit is indicated by rr. This is the rate at which the circuit is mapped (that is, subrate cross-connected via an SCON or SCNT command.

**CGA** - Carrier group alarm

**ftp** - FROM, TO, and test port CGA alarm status.

Where the FROM side of the test access faces the master leg of a multipoint circuit, the corresponding FROM CGA status is always listed as "0"; indicating no alarm.

If the test access is associated with a branch of a multipoint circuit, in which case the FROM side faces upstream towards an MJU, the CGA status of the circuit's master leg facility is listed in the FROM field.

**f** - FROM CGA state

*f* Explanation

F FROM facility in CGA

0 FROM facility is not in CGA

**t** - TO CGA state

*t* Explanation

T TO facility in CGA

0 TO facility is not in CGA

**p** - Test port digroup CGA state

*p* Explanation

P Test port digroup in CGA

0 Test port digroup is not in CGA

**F** - FROM facility in CGA

**0** - FROM facility is not in CGA

**T** - TO facility in CGA

**0** - TO facility is not in CGA

**P** - Test port digroup in CGA

**0** - Test port digroup is not in CGA

**s** - Termination state of the access point

*s* Explanation

|   |                            |
|---|----------------------------|
| F | FROM side is terminated    |
| T | TO side is terminated      |
| B | BOTH sides are terminated  |
| R | Neither side is terminated |

**reason 1**

- Coded reason for denial

**reason 2**

- Explanation of reason 1

| <i>reason 1</i> | <i>reason 2</i>                                                        |
|-----------------|------------------------------------------------------------------------|
| INERR           | THE SPECIFIED TEST PORT IS NOT EQUIPPED                                |
| UEQD            | THE TEST PORT GROUP NPC [s]abc IS NOT EQUIPPED                         |
| F UEQD          | THE FROM SIDE NPC [s]abc IS NOT EQUIPPED                               |
| T UEQD          | THE TO SIDE NPC [s]abc IS NOT EQUIPPED                                 |
| MCOND           | TSI sft IS NOT EQUIPPED                                                |
| MCOND           | CCB sf IS NOT EQUIPPED                                                 |
| MCOND           | ETSI sqq IS NOT EQUIPPED                                               |
| MCOND           | UNIT [q]q IS NOT EQUIPPED                                              |
| MCOND           | UNIT [q]q FTMI d IS NOT EQUIPPED                                       |
| MCOND           | UNIT [q]q FC sb IS NOT EQUIPPED                                        |
| MCOND           | NO DSPU IS EQUIPPED                                                    |
| MCOND           | NO SRM OR MJU TYPE NPC IS EQUIPPED                                     |
| INERR           | TLA CANNOT BE SPECIFIED FOR A LOOPED CHANNEL                           |
| INERR           | CUSTOMER NUMBER MUST BE SPECIFIED FOR DS-0B                            |
| UASGN           | TLA CANNOT BE SPECIFIED FOR AN UNMAPPED CIRCUIT                        |
| UASGN           | TLR CANNOT BE SPECIFIED FOR AN UNMAPPED CIRCUIT                        |
| MCOND           | UNIT [q]q IS NOT FACILITY TERMINATING TYPE                             |
| MCOND           | BOTH CCN SIDES ARE OUT-OF-SERVICE                                      |
| MCOND           | ACTIVE CCN SIDE s IS OUT-OF -SERVICE                                   |
| OOS             | THE TEST PORT GROUP NPC [s]abc IS OUT-OF-SERVICE                       |
| MCOND           | INACTIVE CCN SIDE IN-SERVICE AND NPC [s]abc ON INACTIVE<br>SIDE IS OOS |
| F OOS           | THE FROM SIDE NPC [s]abc IS OUT-OF-SERVICE                             |
| T OOS           | THE TO SIDE NPC [s]abc IS OUT-OF-SERVICE                               |
| MCOND           | CCNI s IS OUT-OF-SERVICE                                               |
| MCOND           | TSI sft IS OUT-OF-SERVICE                                              |
| MCOND           | CCB sf IS OUT-OF-SERVICE                                               |
| MCOND           | CCI s IS OUT-OF-SERVICE                                                |
| MCOND           | ETSI sqq IS OUT-OF-SERVICE                                             |
| MCOND           | UNIT [q]q IS OUT-OF-SERVICE                                            |
| MCOND           | UNIT [q]q FTMI d IS OUT-OF-SERVICE                                     |
| MCOND           | UNIT [q]q FC sb IS OUT-OF-SERVICE                                      |
| MCOND           | DSPI IN UNIT [q]q IS OUT-OF-SERVICE                                    |
| MCOND           | NPC [s]abc SIDE s IS OUT-OF-SERVICE                                    |
| MCOND           | ACTIVE CCN SIDE s IS FAILED                                            |
| MCOND           | ACTIVE CCN SIDE s IS PESTED                                            |
| FAIL            | THE TEST PORT GROUP NPC [s]abc IS FAILED                               |
| F FAIL          | THE FROM SIDE NPC [s]abc IS FAILED                                     |
| T FAIL          | THE TO SIDE NPC [s]abc IS FAILED                                       |
| MCOND           | CCNI s IS FAILED                                                       |
| MCOND           | TSI sft IS FAILED                                                      |
| MCOND           | CCB sf IS FAILED                                                       |

|            |                                                              |
|------------|--------------------------------------------------------------|
| MCOND      | CCI s IS FAILED                                              |
| MCOND      | ETSI sqq IS FAILED                                           |
| MCOND      | UNIT [q]q IS FAILED                                          |
| MCOND      | UNIT [q]q FTMI d IS FAILED                                   |
| MCOND      | UNIT [q]q FC sb IS FAILED                                    |
| MCOND      | DSPI IN UNIT [q]q IS FAILED                                  |
| MCOND      | NPC [s]abc SIDE s IS FAILED                                  |
| CH NOT EST | THE SPECIFIED TEST PORT IS NOT ESTABLISHED TO THE SR FEATURE |
| INERR      | TESTPORTS IN THIS GROUP INVALID FOR SR CIRCUIT               |
| NTLA       | THE SPECIFIED TEST ACCESS POINT IS ALREADY IN TLA MODE       |
| PTLA       | THE SPECIFIED TEST ACCESS POINT IS ALREADY IN TLA MODE       |
| NUTST      | THE SPECIFIED TEST PORT IS UNASSIGNED                        |
| NA         | CONNECTION EXCEEDS REMAINING EC CAPACITY                     |

## **STST,TPR,ALL,LINKS**

### **DISCONNECT TEST ACCESS TIME SLOT**

#### **Explanation Of Command**

This command releases all Subrate circuits from test access and restores the circuit to normal. If the **ALL** keyword is specified, only those test ports whose test access was originally connected by administrative link **n[vv]** are released. If the **LINKS** keyword is specified, all test ports connected to subrate channels or customers are released, regardless of which administrative link initiated the test access.

This command does not affect the terminate and leave state of the released circuit. If the circuit was terminated either before or during test access, it will retain the termination state upon release.

#### **Command**

[I.19681]

**STST:FRM xy,SEQ ww:TPR,{ALL|LINKS}!**

#### **Completion Message**

[O.19681]

**M hh:mm:ss xy,ww n[vv] STST TPR ALL COMPL**

[O.19682]

**M hh:mm:ss xy,ww n[vv] STST TPR ALL 2 LN MSG:  
NO SUBRATE TEST PORTS WERE ACTIVE BY LINK COMPL**

[O.19687]

**M hh:mm:ss xy,ww n[vv] STST TPR LINKS 2 LN MSG:  
NO SUBRATE TEST PORTS WERE ACTIVE COMPL**

### **Denial Message**

---

Not applicable.

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**TPR** - Test port release

**ALL** - All

When specified, this keyword causes the release of only those test ports whose test access was initiated (that is, originally connected) by administrative link n[vv]. If the ALL keyword is used, both SRDC and non-SRDC circuits are released.

**LINKS** - Links

When specified, this keyword causes all test ports connected to Subrate channels or customers to be released, regardless of which administrative link initiated the test access.



## **STST,TPR,TP**

### **SUBRATE TEST ACCESS**

#### **Explanation Of Command**

This command releases a subrate circuit from test access on a test port and restores the circuit to normal. The output from this command depends upon whether the access point is a DS0A, DS0B, or MJU.

This command does not affect the terminate and leave state of the released circuit. If the circuit is terminated either before or during test access, it will retain the termination state upon release.

#### **Command**

[I.19671]

STST:FRM xy,SEQ ww:TPR,TP kk!

#### **Completion Message**

#### **Nonhierarchical**

[O.19671]

M hh:mm:ss xy,ww n[vv] STST TPR [s]abcddd/ff RATE rr TP kk \  
2 LN MSG:  
TLA s[ UNMAPPED|LOOPED][ OOS] COMPL

## **Hierarchical**

---

[O.19671]

M hh:mm:ss xy,ww n[vv] STST TPR uvmnpddd/ff RATE rr TP kk \\  
2 LN MSG:  
TLA s[ UNMAPPED|LOOPED][ OOS] COMPL

## **Denial Message**

---

[O.19671.01]

M hh:mm:ss xy,ww n[vv] STST TPR TP kk <reason 1> 2 LN MSG:  
<reason 2> DNY

## **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

---

**TPR** - Test port release

The termination number (combined NPC, channel, and customer number) indicates the external facility termination of the circuit released from the TO side of the test port.

**TP** - Test port

**kk** - Test port number (01 through 96)

**[s]abcddd/ff**

- External facility termination released from the TO test port channel

**RATE** - Rate

**rr** - Transmission rate specification

**rr** *rate in kb/s*

**24** 2.4

**48** 4.8

**96** 9.6

**56** 56

If the circuit is mapped (subrate cross-connected) the listed RATE is equal to the subrate cross-connect rate. For unmapped circuits, the listed rate depends on the type of test access point. If test access is to a DS0A established channel, the establish channel rate is listed. If the access is to an unconnected subrate channel of a DS0B, the listed rate is the maximum subrate supported by the DS0B.

**UNMAPPED**

- Unmapped

**LOOPED**

- Looped

This keyword appears when a two-point circuit is looped on itself.

**TLA**

- Terminate and leave status of the circuit after it is released from test access.

**s**

- Termination state of the released circuit

| <i>s</i> | <i>Explanation</i>                   |
|----------|--------------------------------------|
| F        | FROM side is terminated              |
| B        | BOTH sides are terminated            |
| R        | RELEASED. Neither side is terminated |
| T        | TO side is terminated                |

**[s]abc**

- The 3- or 4-digit nonhierarchical NPC number of circuit under test, or of multipoint master leg

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number of circuit under test, or of multipoint master leg

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number of circuit under test, or of multipoint master leg

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - Customer number of circuit under test, or of multipoint master leg

01 (DS0A at 2.4, 4.8, 9.6, or 56 kb/s)  
01-20 (DS0B at 2.4 kb/s)  
01-10 (DS0B at 4.8 kb/s)  
01-05 (DS0B at 9.6 kb/s)

**DS0B** - Digital signal zero B

**nn** - Number of DS0B subrate customer channels (05, 10, or 20)

**MJU** - Multipoint junction unit

**ssss** - MJU number of MJU under test (0001 through 9999)

**BR** - Branch

**i** - Branch number

**ppp** - Parity error correction channel number

**ll** - Test port number used for parity error correction channel (02 - 48)

**i** - Branch number of MJU under test (1 - 4)

**00S** - Out of service

The facility terminating NPC is out-of-service

**pa** - Priority of action

pa Explanation

M Manual

I Information

**reason 1**

- Coded reason for denial

**reason 2**

- Explanation of reason 1

| <i>reason 1</i> | <i>reason 2</i>                                                        |
|-----------------|------------------------------------------------------------------------|
| INERR           | THE SPECIFIED TEST PORT IS NOT EQUIPPED                                |
| INERR           | TESTPORTS IN THIS GROUP INVALID FOR SR CIRCUIT                         |
| UEQD            | THE TEST PORT GROUP NPC [s]abc IS NOT EQUIPPED                         |
| MCOND           | TSI sft IS NOT EQUIPPED                                                |
| MCOND           | CCB sf IS NOT EQUIPPED                                                 |
| MCOND           | ETSI sqq IS NOT EQUIPPED                                               |
| MCOND           | UNIT [q]q IS NOT EQUIPPED                                              |
| MCOND           | UNIT [q]q FTMI d IS NOT EQUIPPED                                       |
| MCOND           | UNIT [q]q FC sb IS NOT EQUIPPED                                        |
| MCOND           | NO DSPU IS EQUIPPED                                                    |
| MCOND           | NO SRM OR MJU TYPE NPC IS EQUIPPED                                     |
| MCOND           | UNIT [q]q IS NOT FACILITY TERMINATING TYPE                             |
| MCOND           | BOTH CCN SIDES ARE OUT-OF-SERVICE                                      |
| MCOND           | ACTIVE CCN SIDE s IS OUT-OF -SERVICE                                   |
| OOS             | THE TEST PORT GROUP NPC [s]abc IS OUT-OF-SERVICE                       |
| MCOND           | INACTIVE CCN SIDE IN-SERVICE AND NPC [s]abc ON INACTIVE<br>SIDE IS OOS |
| MCOND           | CCNI s IS OUT-OF-SERVICE                                               |
| MCOND           | TSI sft IS OUT-OF-SERVICE                                              |
| MCOND           | CCB sf IS OUT-OF-SERVICE                                               |
| MCOND           | CCI s IS OUT-OF-SERVICE                                                |
| MCOND           | ETSI sqq IS OUT-OF-SERVICE                                             |
| MCOND           | UNIT [q]q IS OUT-OF-SERVICE                                            |
| MCOND           | UNIT [q]q FTMI d IS OUT-OF-SERVICE                                     |
| MCOND           | UNIT [q]q FC sb IS OUT-OF-SERVICE                                      |
| MCOND           | DSPI IN UNIT [q]q IS OUT-OF-SERVICE                                    |
| MCOND           | NPC [s]abc SIDE s IS OUT-OF-SERVICE                                    |
| MCOND           | ACTIVE CCN SIDE s IS FAILED                                            |
| MCOND           | ACTIVE CCN SIDE s IS PESTED                                            |
| FAIL            | THE TEST PORT GROUP NPC [s]abc IS FAILED                               |
| F FAIL          | THE FROM SIDE NPC [s]abc IS FAILED                                     |
| T FAIL          | THE TO SIDE NPC [s]abc IS FAILED                                       |
| MCOND           | CCNI s IS FAILED                                                       |
| MCOND           | TSI sft IS FAILED                                                      |
| MCOND           | CCB sf IS FAILED                                                       |
| MCOND           | CCI s IS FAILED                                                        |
| MCOND           | ETSI sqq IS FAILED                                                     |
| MCOND           | UNIT [q]q IS FAILED                                                    |
| MCOND           | UNIT [q]q FTMI d IS FAILED                                             |
| MCOND           | UNIT [q]q FC sb IS FAILED                                              |

|            |                                                               |
|------------|---------------------------------------------------------------|
| MCOND      | DSPI IN UNIT [q]q IS FAILED                                   |
| MCOND      | NPC [s]abc SIDE s IS FAILED                                   |
| CH NOT EST | THE SPECIFIED TEST PORT IS NOT ESTABLISHED TO<br>A SR CIRCUIT |
| NUTST      | THE SPECIFIED TEST PORT IS UNASSIGNED                         |
| NA         | CONNECTION EXCEEDS REMAINING EC CAPACITY                      |



## **SW,BCAST,OLD,NEW,INCL**

### **DS0 CIRCUIT ROLL - BRIDGE COMMAND**

#### **Explanation Of Command**

This command is used to perform the Bridge step of the DS0 (64kbit/s) Roll operation.

Test signals may exist on the new DS0. If allowed to remain they will overwrite the signal transferred from the old DS0.

The DS0 (64kbit/s) Roll procedure consists of three commands:

1. Bridge

This step will bridge the transmit data by broadcasting to the new DS0 as well as the old DS0.

2. Roll

This step rolls the service by switching the receive data from the old DS0 to the new DS0.

3. Cut

This step takes down the bridge by disconnecting the transmit data from the old DS0.

#### **⇒ NOTE:**

The user should limit the number of subrate channels established to a digroup using D4-type framing. When the unassigned multiplex code (UMC) is present on too many channels it simulates a yellow alarm. A limit of 10 channels is safe for an AT&T D-bank. This problem only exists when the DS0Bs are established but not connected.

## **Command**

---

### **Nonhierarchical**

---

[I.14021]

SW:FRM xy,SEQ ww:BCAST,OLD [s]abcddd[-eee],NEW [t]ghijjj\  
[-kkk][,INCL]

### **Hierarchical**

---

[I.14021]

SW:FRM xy,SEQ ww:BCAST,OLD uvmnpddd[-eee],NEW wxkqrjjj\  
[-kkk][,INCL]

## **Completion Message**

---

### **Nonhierarchical**

---

[O.14021]

M hh:mm:ss xy,ww n[vv] SW BCAST [s]abcddd[-eee],[t]ghijjj[-kkk]\  
[ INCL] COMPL

### **Hierarchical**

---

[O.14021]

M hh:mm:ss xy,ww n[vv] SW BCAST uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ INCL] COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.14021.01]

M hh:mm:ss xy,ww n[vv] SW BCAST [s]abcddd[-eee],[t]ghijjj[-kkk]\  
[ INCL][ mmm,nnn] COND cc DNY

## Hierarchical

[O.14021.01]

M hh:mm:ss xy,ww n[vv] SW BCAST uvmnpddd[-eee],wxqrrjjj[-kkk]\  
[ INCL][ mmm,nnn] COND cc DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**BCAST** - Broadcast

**OLD** - Old

The bridge step does not need the OLD NPC or the OLD NPC hierarchy to be in service, however the roll step does. Therefore, it is possible that the bridge step will be allowed when the subsequent roll step will be denied.

**NEW** - New

**[s]abc** - The 3- or 4-digit nonhierarchical OLD NPC number

**[t]ghi** - The 3- or 4-digit nonhierarchical NEW NPC number

**Note:** Valid types for old and new NPC's are DExyz and DAxyz (except DE9y9 and DA9y9) and TExyz and TAxzy (except TE9y9 and TA9y9).

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical OLD NPC number  
**wxkqr** - Hierarchical NEW NPC number

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

The values are listed below:

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd, jjj**  
- Channel numbers for beginning of channel range

**eee, kkk**  
- Channel numbers for end of channel range

To connect a range of channels, use the optional fields eee and kkk.

**INCL** - Inclusive

A circuit designated as a customer controlled circuit or a red circuit cannot be modified without using the inclusive keyword in the message. Also, an NPC which supports these circuits cannot be manually removed unless the INCL keyword is given in the remove message.

**mmm** - The OLD channel number involved in denial (ddd through eee).

**nnn** - The NEW channel number involved in denial (jjj through kkk).

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b> | <i>Explanation</i>                                                     |
|-----------|-----------|------------------------------------------------------------------------|
| <b>02</b> |           | Subject entity is not equipped                                         |
| <b>04</b> |           | Subject entity is out of service                                       |
| <b>05</b> |           | Subject entity is pested                                               |
| <b>1E</b> |           | Customer control or red circuit exists                                 |
| <b>26</b> |           | NPC type error                                                         |
| <b>01</b> |           | Invalid range for specified NPC type                                   |
| <b>12</b> |           | Active CCN side not IS or failed or pested or hardware OOS             |
| <b>13</b> |           | UNIT not equipped, not in service, or failed                           |
| <b>14</b> |           | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS  |
| <b>15</b> |           | FTMI not equipped, not in service, or failed                           |
| <b>16</b> |           | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS    |
| <b>17</b> |           | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS  |
| <b>18</b> |           | DSPI not equipped, not in service, or failed                           |
| <b>21</b> |           | Trunk conditioning is invalid                                          |
| <b>32</b> |           | Termination is under test                                              |
| <b>33</b> |           | Termination is a test port                                             |
| <b>C8</b> |           | Exceeded depth limit of 6 on broadcast conference concatenation        |
| <b>1A</b> |           | Required FLI not equipped, not in service, or failed                   |
| <b>1B</b> |           | Required MXR not equipped, not in service, or failed                   |
| <b>1C</b> |           | Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS |
| <b>1D</b> |           | Required MIU not equipped, not in service, or failed                   |
| <b>46</b> |           | NPC Failed or Out of Service                                           |
| <b>A9</b> |           | Cross-connect not consistent with feature package                      |
| <b>B7</b> |           | No DSP unit equipped                                                   |
| <b>B8</b> |           | No CBTYPE NPC equipped                                                 |
| <b>B9</b> |           | No CBTYPE NPC capacity remaining                                       |
| <b>BA</b> |           | Inactive side NPC out of service and inactive side in service          |
| <b>EA</b> |           | AIS invalid for cross-connection specified                             |

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                          |
|-----------|--------------|-------------------------------------------------------------|
| <b>EC</b> | <b>MCOND</b> | Invalid channel 000 cross-connection specified              |
| <b>ED</b> | <b>MCOND</b> | Invalid channel 031 cross-connection specified              |
| <b>0A</b> |              | All CBTYPE NPCs out of service or failed                    |
| <b>E0</b> |              | ETSI not equipped, not in service, or failed                |
| <b>68</b> |              | NEW NPC already cross-connect or mapped channel(s) on new   |
| <b>69</b> |              | Mapped parity channel(s) on new                             |
| <b>6C</b> |              | Old and new chan on same NPC and within the range           |
| <b>6E</b> |              | Old or new is a non-channelized type in a DS0 command       |
| <b>6F</b> |              | The OLD or NEW NPC is already being rolled.                 |
| <b>70</b> |              | One of the FAR end channels is being rolled                 |
| <b>71</b> |              | Unmapped channel(s) on old                                  |
| <b>72</b> |              | One of the far NPC(s) is SLC                                |
| <b>73</b> |              | Channel has a FAR, which is within the range                |
| <b>77</b> |              | Obsolete circuit type                                       |
| <b>78</b> |              | Ranges of old and new do not match                          |
| <b>79</b> |              | DCTN conference channel cannot be rolled                    |
| <b>7A</b> |              | Testport/testgroup channel cannot be rolled                 |
| <b>7B</b> |              | Channel out of bound in a BCON/v.c                          |
| <b>7C</b> |              | Parity channel out of bound on new                          |
| <b>7D</b> |              | Not first channel in a BCON/virtual conf                    |
| <b>9C</b> |              | Parity channel cannot be within the range of a DS0 command. |

## **SW,BCAST,OLD,NEW,INCL**

### **FACILITY ROLL - BRIDGE COMMAND**

#### **Explanation Of Command**

This input message is used to perform the Bridge step of the DS1 or 2Mbit/s Roll operation.

Test signals may exist on the new DS0. If allowed to remain they will overwrite the signal transferred from the old DS0.

The DS1 or 2Mbit/s Roll procedure consists of three commands:

1. Bridge

This step will bridge the transmit data by broadcasting to the new NPC as well as the old NPC.

2. Roll

This step rolls the service by switching the receive data from the old NPC to the new NPC.

3. Cut

This step takes down the bridge by disconnecting the transmit data from the old NPC.

#### **⇒ NOTE:**

The user should limit the number of subrate channels established to a digroup using D4-type framing.

When the unassigned multiplex code (UMC) is present on too many channels it simulates a yellow alarm.

A limit of 10 channels is safe for an AT&T D-bank.

This problem only exists when the DS0Bs are established but not connected.



### **Command**

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#### **Nonhierarchical**

---

[I.14061]

SW:FRM xy,SEQ ww:BCAST,OLD [s]abc,NEW [t]ghi[,INCL]

#### **Hierarchical**

---

[I.14061]

SW:FRM xy,SEQ ww:BCAST,OLD uvmnp,NEW wxkqr[,INCL]

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.14061]

M hh:mm:ss xy,ww n[vv] SW BCAST [s]abc,[t]ghi[ INCL] COMPL

#### **Hierarchical**

---

[O.14061]

M hh:mm:ss xy,ww n[vv] SW BCAST uvmnp,wxkqr[ INCL] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.14061.01]

M hh:mm:ss xy,ww n[vv] SW BCAST [s]abc,[t]ghi\  
[ INCL][ mmm,nnn] COND cc DNY

## Hierarchical

[O.14061.01]

M hh:mm:ss xy,ww n[vv] SW BCAST uvmnp,wxkqr\  
[ INCL][ mmm,nnn] COND cc DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**BCAST** - Broadcast

**OLD** - Old

The bridge step does not need the OLD NPC or the OLD NPC hierarchy to be in service, however the roll step does. Therefore, it is possible that the bridge step will be allowed but the subsequent roll step will be denied.

**NEW** - New

**[s]abc** - The 3- or 4-digit nonhierarchical OLD NPC number

**[t]ghi** - The 3- or 4-digit nonhierarchical NEW NPC number

**Note:** Valid types for old and new NPC's are DExyz, DAxyz, TExyz and TAxzy.

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical OLD NPC number  
**wxkqr** - Hierarchical NEW NPC number

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

The values are listed below:

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**INCL** - Inclusive

A circuit designated as a customer controlled circuit or a red circuit cannot be modified without using the inclusive keyword in the message. Also, an NPC which supports these circuits cannot be manually removed unless the INCL keyword is given in the remove message.

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                                                        |
|-----------|------------------------------------------------------------------------|
| <b>02</b> | Subject entity is not equipped                                         |
| <b>04</b> | Subject entity is out of service                                       |
| <b>05</b> | Subject entity is pested                                               |
| <b>1E</b> | Customer control or red circuit exists                                 |
| <b>26</b> | NPC type error                                                         |
| <b>01</b> | Invalid range for specified NPC type                                   |
| <b>12</b> | Active CCN side not IS or failed or pested or hardware OOS             |
| <b>13</b> | UNIT not equipped, not in service, or failed                           |
| <b>14</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS  |
| <b>15</b> | FTMI not equipped, not in service, or failed                           |
| <b>16</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS    |
| <b>17</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS  |
| <b>18</b> | DSPI not equipped, not in service, or failed                           |
| <b>21</b> | Trunk conditioning is invalid                                          |
| <b>32</b> | Termination is under test                                              |
| <b>C8</b> | Exceeded depth limit of 6 on broadcast conference concatenation        |
| <b>1A</b> | Required FLI not equipped, not in service, or failed                   |
| <b>1B</b> | Required MXR not equipped, not in service, or failed                   |
| <b>1C</b> | Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS |
| <b>1D</b> | Required MIU not equipped, not in service, or failed                   |
| <b>46</b> | NPC Failed or Out of Service                                           |
| <b>A9</b> | Cross-connect not consistent with feature package                      |
| <b>B6</b> | C-bit operations are enabled                                           |
| <b>B7</b> | No DSP unit equipped                                                   |
| <b>B8</b> | No CBTYPE NPC equipped                                                 |
| <b>B9</b> | No CBTYPE NPC capacity remaining                                       |
| <b>BA</b> | Inactive side NPC out of service and inactive side in service          |
| <b>EA</b> | AIS invalid for cross-connection specified                             |
| <b>0A</b> | All CBTYPE NPCs out of service or failed                               |
| <b>E0</b> | ETSI not equipped, not in service, or failed                           |
| <b>68</b> | NEW NPC already cross-connect or mapped channel(s) on new              |
| <b>6B</b> | No mapped channel on old                                               |
| <b>6D</b> | One NPC is a non-channelized type and the other is not                 |
| <b>6F</b> | The OLD or NEW NPC is already being rolled.                            |
| <b>70</b> | One of the FAR end channels is being rolled                            |
| <b>72</b> | One of the far NPC(s) is SLC                                           |
| <b>73</b> | Channel has a FAR, which is within the range                           |
| <b>74</b> | Old and new are the same NPC in a DS1 command                          |
| <b>77</b> | Obsolete circuit type                                                  |
| <b>79</b> | DCTN conference channel cannot be rolled                               |
| <b>7A</b> | Testport/testgroup channel cannot be rolled                            |
| <b>7B</b> | Channel out of bound in a BCON/v.c                                     |
| <b>7C</b> | Parity channel out of bound on new                                     |
| <b>7D</b> | Not first channel in a BCON/virtual conf                               |

**cc**    *Explanation*

**9B**    Termination is under test or is a test port or group

**9C**    Parity channel cannot be within the range of a DS0 command.

## **SW,DISC,OOS**

### **DS0 CIRCUIT ROLL - DISCONNECT COMMAND**

#### **Explanation Of Command**

This input message is used to perform the Cut step of the DS0 (or 64kbit/s) Roll operation.

The DS0 (or 64kbit/s) Roll procedure consists of three commands:

1. Bridge

This step will bridge the transmit data by broadcasting to the new DS0 as well as the old DS0.

2. Roll

This step rolls the service by switching the receive data from the old DS0 to the new DS0.

3. Cut

This step takes down the bridge by disconnecting the transmit data from the old DS0.

#### **Command**

##### **Nonhierarchical**

[I.14041]

**SW:FRM xy,SEQ ww:DISC [s]abcddd[-eee][,OOS]**

##### **Hierarchical**

[I.14041]

**SW:FRM xy,SEQ ww:DISC uvmnpddd[-eee][,OOS]**

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.14041]

M hh:mm:ss xy,ww n[vv] SW DISC [s]abcddd[-eee][ OOS] COMPL

#### **Hierarchical**

---

[O.14041]

M hh:mm:ss xy,ww n[vv] SW DISC uvmnpddd[-eee][ OOS] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.14041.01]

M hh:mm:ss xy,ww n[vv] SW DISC [s]abcddd[-eee]\  
[ OOS][ mmm] COND cc DNY

#### **Hierarchical**

---

[O.14041.01]

M hh:mm:ss xy,ww n[vv] SW DISC uvmnpddd[-eee]\  
[ OOS][ mmm] COND cc DNY

### **Autonomous Message**

---

Not applicable.



## Explanation Of Parameters

**DISC** - Disconnect

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

**Note:** Valid NPC types are DExyz and DAxyz (except DE9y9 and DA9y9) and TExyz and TAxz (except TE9y9 and TA9y9).

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical OLD NPC number  
**wxkqr** - Hierarchical NEW NPC number

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

The values are listed below:

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number for beginning of channel range

**eee** - Channel number for end of channel range

To connect a range of channels, use the optional field eee.

**OOS** - Out Of Service

The OOS keyword is used to force a disconnect from an NPC which is out of service.

**mmm** - The channel number involved in denial (ddd through eee).

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b> | <i>Explanation</i>                                                    |
|-----------|-----------|-----------------------------------------------------------------------|
| <b>02</b> |           | Subject entity is not equipped                                        |
| <b>04</b> |           | Subject entity is out of service                                      |
| <b>01</b> |           | Invalid range for specified NPC type                                  |
| <b>12</b> |           | Active CCN side not IS or failed or pested or hardware OOS            |
| <b>13</b> |           | UNIT not equipped, not in service, or failed                          |
| <b>14</b> |           | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS |
| <b>15</b> |           | FTMI not equipped, not in service, or failed                          |
| <b>16</b> |           | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS   |
| <b>17</b> |           | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS |
| <b>18</b> |           | DSPI not equipped, not in service, or failed                          |
| <b>C8</b> |           | Exceeded depth limit of 6 on broadcast conference concatenation       |

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                     |
|-----------|--------------|------------------------------------------------------------------------|
| <b>1A</b> |              | Required FLI not equipped, not in service, or failed                   |
| <b>1B</b> |              | Required MXR not equipped, not in service, or failed                   |
| <b>1C</b> |              | Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS |
| <b>1D</b> |              | Required MIU not equipped, not in service, or failed                   |
| <b>A9</b> |              | Cross-connect not consistent with feature package                      |
| <b>B7</b> |              | No DSP unit equipped                                                   |
| <b>B8</b> |              | No CBTYPE NPC equipped                                                 |
| <b>B9</b> |              | No CBTYPE NPC capacity remaining                                       |
| <b>BA</b> |              | Inactive side NPC out of service and inactive side in service          |
| <b>EC</b> | <b>MCOND</b> | Invalid channel 000 cross-connection specified                         |
| <b>ED</b> | <b>MCOND</b> | Invalid channel 031 cross-connection specified                         |
| <b>0A</b> |              | All CBTYPE NPCs out of service or failed                               |
| <b>E0</b> |              | ETSI not equipped, not in service, or failed                           |
| <b>67</b> |              | Improper roll command sequence                                         |
| <b>6C</b> |              | Old and new chan on same NPC and within the range                      |
| <b>75</b> |              | Old and new channels have not been paired by a BCAST command.          |
| <b>76</b> |              | Channel or NPC not bridged                                             |
| <b>79</b> |              | DCTN conference channel cannot be rolled                               |
| <b>7A</b> |              | Testport/testgroup channel cannot be rolled                            |
| <b>7B</b> |              | Channel out of bound in a BCON/v.c                                     |
| <b>7C</b> |              | Parity channel out of bound on new                                     |
| <b>7D</b> |              | Not first channel in a BCON/virtual conf                               |
| <b>9C</b> |              | Parity channel cannot be within the range of a DS0 command.            |

## **SW,DISC,OOS**

### **FACILITY ROLL - DISCONNECT COMMAND**

#### **Explanation Of Command**

This input message is used to perform the Cut step of the DS1 or 2Mbit/s Roll procedure.

The DS1 or 2Mbit/s Roll procedure consists of three commands:

1. Bridge

This step will bridge the transmit data by broadcasting to the new NPC as well as the old NPC.

2. Roll

This step rolls the service by switching the receive data from the old NPC to the new NPC.

3. Cut

This step takes down the bridge by disconnecting the transmit data from the old NPC.

#### **Command**

#### **Nonhierarchical**

[I.14081]

**SW:FRM xy,SEQ ww:DISC [s]abc[,OOS]**

### **Hierarchical**

---

[I.14081]

SW:FRM xy,SEQ ww:DISC uvmnp[,OOS]

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.14081]

M hh:mm:ss xy,ww n[vv] SW DISC [s]abc[ OOS] COMPL

### **Hierarchical**

---

[O.14081]

M hh:mm:ss xy,ww n[vv] SW DISC uvmnp[ OOS] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.14081.01]

M hh:mm:ss xy,ww n[vv] SW DISC [s]abc[ OOS][ mmm] COND cc DNY

### **Hierarchical**

---

[O.14081.01]

M hh:mm:ss xy,ww n[vv] SW DISC uvmnp [ OOS][ mmm] COND cc DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**DISC** - Disconnect

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

**Note:** Valid NPC types are DExyz, DAxyz, TExyz, TAxzy.

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical OLD NPC number  
**wxkqr** - Hierarchical NEW NPC number



**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

The values are listed below:

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**OOS** - Out of service

The OOS keyword is used to force a disconnect from an NPC which is out of service.

**mmm** - The channel number involved in the denial (ddd through eee).

**cc** - Hexadecimal condition code

**cc**    *Explanation*

|           |                                                                        |
|-----------|------------------------------------------------------------------------|
| <b>02</b> | Subject entity is not equipped                                         |
| <b>04</b> | Subject entity is out of service                                       |
| <b>01</b> | Invalid range for specified NPC type                                   |
| <b>12</b> | Active CCN side not IS or failed or pested or hardware OOS             |
| <b>13</b> | UNIT not equipped, not in service, or failed                           |
| <b>14</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS  |
| <b>15</b> | FTMI not equipped, not in service, or failed                           |
| <b>16</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS    |
| <b>17</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS  |
| <b>18</b> | DSPI not equipped, not in service, or failed                           |
| <b>C8</b> | Exceeded depth limit of 6 on broadcast conference concatenation        |
| <b>1A</b> | Required FLI not equipped, not in service, or failed                   |
| <b>1B</b> | Required MXR not equipped, not in service, or failed                   |
| <b>1C</b> | Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS |
| <b>1D</b> | Required MIU not equipped, not in service, or failed                   |
| <b>A9</b> | Cross-connect not consistent with feature package                      |
| <b>B7</b> | No DSP unit equipped                                                   |
| <b>B8</b> | No CBTYPE NPC equipped                                                 |
| <b>B9</b> | No CBTYPE NPC capacity remaining                                       |

**cc**    *Explanation*

- BA**    Inactive side NPC out of service and inactive side in service
- 0A**    All CBTYPE NPCs out of service or failed
- E0**    ETSI not equipped, not in service, or failed
- 67**    Improper roll command sequence
- 6B**    No mapped channel on old
- 75**    Old and new channels have not been paired by a BCAST command.
- 76**    Channel or NPC not bridged
- 79**    DCTN conference channel cannot be rolled
- 7A**    Testport/testgroup channel cannot be rolled
- 7B**    Channel out of bound in a BCON/v.c
- 7C**    Parity channel out of bound on new
- 7D**    Not first channel in a BCON/virtual conf
- 9C**    Parity channel cannot be within the range of a DS0 command.

## **SW,NPC,RT,PSW,USW,ALW,INH,FRC,INCL**

**SWITCH::**

### **Explanation Of Command**

This command requests the activation (PSW), termination (USW), permission (ALW) or inhibition (INH) of protection switching on the SLC® Carrier terminated digroups. The **INCL** keyword must always be used for any digroup A switching activity such as activation, inhibition, permission, or termination. The **FRC** keyword is meaningful only when used with the **INH** option to inhibit a failed digroup from being protected.

### **Command**

#### **Nonhierarchical**

[I.39401]

```
SW:FRM xy,SEQ ww:{NPC [s]abc|RT ffff,xxx},\
{PSW|USW|ALW|INH}[ ,FRC][ ,INCL]!
```

#### **Hierarchical**

[I.39401]

```
SW:FRM xy,SEQ ww:{NPC uvmnp|RT ffff,xxx},\
{PSW|USW|ALW|INH}[ ,FRC][ ,INCL]!
```

## **Completion Message**

---

### **Nonhierarchical**

---

[O.39401]

M hh:mm:ss xy,ww n[vv] SW {NPC [s]abc|RT ffff,xxx}\  
{PSW|USW|ALW|INH}[ FRC][ INCL] COMPL

### **Hierarchical**

---

[O.39401]

M hh:mm:ss xy,ww n[vv] SW {NPC uvmnp|RT ffff,xxx}\  
{PSW|USW|ALW|INH} [ FRC][ INCL] COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.39401.01]

M hh:mm:ss xy,ww n[vv] SW {NPC [s]abc|RT ffff,xxx}\  
{PSW|USW|ALW|INH} [ FRC][ INCL] COND cc DNY

### **Hierarchical**

---

[O.39401.01]

M hh:mm:ss xy,ww n[vv] SW {NPC uvmnp|RT ffff,xxx}\  
{PSW|USW|ALW|INH}[ FRC][ INCL] COND cc DNY

## **Autonomous Message**

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### **Nonhierarchical**

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[O.39401]

I hh:mm:ss xy,ww SW NPC [s]abc RT ffff DGx USW COMPL

## Hierarchical

[O.39401]

I hh:mm:ss xy,ww SW NPC uvmnp RT ffff DGx USW COMPL

## Explanation Of Parameters

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

**uvmnp** - Hierarchical NPC number

uv     - Unit number  
m       - Module number within the unit  
np       - NPC number within the module  
The allowable values are presented below:

DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

**RT**     - Remote terminal  
**ffff**   - RT bank identification number (0000 - 9999 inclusive)

**xxx**     - Digroup designation

| xxx | Explanation                          |
|-----|--------------------------------------|
| DGA | Digroup A                            |
| DGB | Digroup B                            |
| DGC | Digroup C                            |
| DGD | Digroup D                            |
| ALL | All Digroups (DGA, DGB, DGC and DGD) |

The "ALL" option is not applicable to the MML message.  
The "DGx" in the autonomous output means DGA, DGB, DGC, or DGD.

**PSW**     - Perform a protection switch  
**USW**     - Perform an unswitch  
**ALW**     - Allow a digroup to be protected  
**INH**     - Inhibit a digroup from protection  
**FRC**     - Force  
**INCL**    - Inclusive

**cc**       - Hexadecimal condition code

| cc        | Explanation                      |
|-----------|----------------------------------|
| <b>10</b> | Unit is not equipped             |
| <b>11</b> | UC is out of service             |
| <b>12</b> | UC is in service but failed      |
| <b>13</b> | FTMI is not equipped             |
| <b>15</b> | NPC is unequipped                |
| <b>46</b> | NPC Failed or Out of Service     |
| <b>63</b> | NPC is a DGP                     |
| <b>6A</b> | NPC type is not DS type          |
| <b>78</b> | Protection switch process failed |

**cc**    *Explanation*

- 7E**    Bank id number not found
- 7F**    NPC is not added
- 87**    DGP is protecting a primary digroup
- 8B**    Digroup name and bank id don't match
- C9**    The INCL keyword is needed for DGA
- CA**    No protection switch is currently active
- CB**    Protection entity out of service or failed
- CC**    Protection entity is unequipped
- CD**    Data link failed
- CE**    Far end failed to respond
- D1**    Protection switch existing is autonomous
- D2**    Protection switching is already inhibited
- D3**    Protection switching is already allowed
- D4**    Active CCN side is out of service
- D5**    Boot in progress, can't service request
- FD**    Line Loop Back is active
- A6**    Invalid switch request for DCLU

## **SW,ROLL,OLD,NEW,INCL,FRC,OOS**

### **DS0 CIRCUIT ROLL- ROLL COMMAND**

#### **Explanation Of Command**

This input message is used to perform the Roll step of the DS0 (or 64kbit/s) Roll operation.

The DS0 (or 64kbit/s) Roll procedure consists of three commands:

1. Bridge

This step will bridge the transmit data by broadcasting to the new DS0 as well as the old DS0

2. Roll

This step rolls the service by switching the receive data from the old DS0 to the new DS0.

3. Cut

This step takes down the bridge by disconnecting the transmit data from the old DS0.

#### **Command**

#### **Nonhierarchical**

[.14031]

**SW:FRM xy,SEQ ww:ROLL,OLD [s]abcddd[-eee],NEW [t]ghijjj[-kkk]\**  
**[,INCL][,FRC][,OOS]**



### **Hierarchical**

---

[I.14031]

SW:FRM xy,SEQ ww:ROLL,OLD uvmnpddd[-eee],NEW wxkqrjjj[-kkk]\  
[,INCL][,FRC][,OOS]

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.14031]

M hh:mm:ss xy,ww n[vv] SW ROLL [s]abcddd[-eee],[t]ghijjj[-kkk]\  
[ INCL][ FRC][ OOS] COMPL

#### **Hierarchical**

---

[O.14031]

M hh:mm:ss xy,ww n[vv] SW ROLL uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ INCL][ FRC][ OOS] COMPL

### **Denial Message**

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#### **Nonhierarchical**

---

[O.14031.01]

M hh:mm:ss xy,ww n[vv] SW ROLL [s]abcddd[-eee],[t]ghijjj[-kkk]\  
[ INCL][ FRC][ OOS] 2 LN MSG:  
[ mmm,nnn] COND cc DNY

#### **Hierarchical**

---

[O.14031.01]

M hh:mm:ss xy,ww n[vv] SW ROLL uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ INCL][ FRC][ OOS] 2 LN MSG:  
[ mmm,nnn] COND cc DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**ROLL** - Roll

**OLD** - Old termination

**NEW** - New termination

**[s]abc** - The 3- or 4-digit nonhierarchical OLD NPC number

**[t]ghi** - The 3- or 4-digit nonhierarchical NEW NPC number

**Note:** Valid types for old and new NPC's are DExyz and DAxyz (except DE9y9 and DA9y9) and TExyz and TAxz (except TE9yz and TA9y9).

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical OLD NPC number

**wxkqr** - Hierarchical NEW NPC number

**uv,wx** - Unit number

**m,k** - Module number

**np,qr** - NPC number within the module

The values are listed below:

DE and DA type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd, jjj**

- Channel numbers for beginning of channel range

**eee, kkk**

- Channel numbers for end of channel range

To connect a range of channels, use the optional fields eee and kkk.

**INCL** - Inclusive

A circuit designated as a customer controlled circuit or a red circuit cannot be modified without using the inclusive keyword in the message.

**FRC** - Force

The FRC keyword is used to force a roll to an NPC which is in CGA.

**OOS** - Out of service

The OOS keyword is used to force a roll from an NPC which is out of service.

- mmm** - The OLD channel number involved in denial (ddd through eee).
- nnn** - The NEW channel number involved in denial (jjj through kkk).
- cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                     |
|-----------|--------------|------------------------------------------------------------------------|
| <b>02</b> |              | Subject entity is not equipped                                         |
| <b>04</b> |              | Subject entity is out of service                                       |
| <b>05</b> |              | Subject entity is pested                                               |
| <b>1E</b> |              | Customer control or red circuit exists                                 |
| <b>01</b> |              | Invalid range for specified NPC type                                   |
| <b>12</b> |              | Active CCN side not IS or failed or pested or hardware OOS             |
| <b>13</b> |              | UNIT not equipped, not in service, or failed                           |
| <b>14</b> |              | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS  |
| <b>15</b> |              | FTMI not equipped, not in service, or failed                           |
| <b>16</b> |              | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS    |
| <b>17</b> |              | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS  |
| <b>18</b> |              | DSPI not equipped, not in service, or failed                           |
| <b>C8</b> |              | Exceeded depth limit of 6 on broadcast conference concatenation        |
| <b>1A</b> |              | Required FLI not equipped, not in service, or failed                   |
| <b>1B</b> |              | Required MXR not equipped, not in service, or failed                   |
| <b>1C</b> |              | Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS |
| <b>1D</b> |              | Required MIU not equipped, not in service, or failed                   |
| <b>46</b> |              | NPC Failed or Out of Service                                           |
| <b>A9</b> |              | Cross-connect not consistent with feature package                      |
| <b>B7</b> |              | No DSP unit equipped                                                   |
| <b>B8</b> |              | No CBTYPE NPC equipped                                                 |
| <b>B9</b> |              | No CBTYPE NPC capacity remaining                                       |
| <b>BA</b> |              | Inactive side NPC out of service and inactive side in service          |
| <b>EC</b> | <b>MCOND</b> | Invalid channel 000 cross-connection specified                         |
| <b>ED</b> | <b>MCOND</b> | Invalid channel 031 cross-connection specified                         |
| <b>0A</b> |              | All CBTYPE NPCs out of service or failed                               |
| <b>E0</b> |              | ETSI not equipped, not in service, or failed                           |
| <b>67</b> |              | Improper roll command sequence                                         |
| <b>6A</b> |              | New in CGA or PBA                                                      |
| <b>6C</b> |              | Old and new chan on same NPC and within the range                      |
| <b>75</b> |              | Old and new channels have not been paired by a BCAST command.          |
| <b>78</b> |              | Ranges of old and new do not match                                     |
| <b>79</b> |              | DCTN conference channel cannot be rolled                               |

| <b>cc</b> | <b>st</b> | <i>Explanation</i>                                          |
|-----------|-----------|-------------------------------------------------------------|
| <b>7A</b> |           | Testport/testgroup channel cannot be rolled                 |
| <b>7B</b> |           | Channel out of bound in a BCON/v.c                          |
| <b>7C</b> |           | Parity channel out of bound on new                          |
| <b>7D</b> |           | Not first channel in a BCON/virtual conf                    |
| <b>9C</b> |           | Parity channel cannot be within the range of a DS0 command. |

## **SW,ROLL,OLD,NEW,INCL,FRC,OOS,TWAY**

### **FACILITY ROLL - ROLL COMMAND**

#### **Explanation Of Command**

This input message is used to perform the Roll step of the DS1 or 2Mbit/s Roll procedure.

The DS1 or 2Mbit/s Roll procedure consists of three commands:

1. Bridge

This step will bridge the transmit data by broadcasting to the new NPC as well as the old NPC.

2. Roll

This step rolls the service by switching the receive data from the old NPC to the new NPC.

3. Cut

This step takes down the bridge by disconnecting the transmit data from the old NPC.

#### **Command**

#### **Nonhierarchical**

[I.14071]

**SW:FRM xy,SEQ ww:ROLL,OLD [s]abc,NEW [t]ghi[,INCL][,FRC]\  
[,OOS][,TWAY]**

### **Hierarchical**

---

[I.14071]

SW:FRM xy,SEQ ww:ROLL,OLD uvmnp,NEW wxkqr[,INCL][,FRC]\  
[,OOS][,TWAY]

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.14071]

M hh:mm:ss xy,ww n[vv] SW ROLL [s]abc,[t]ghi[ INCL][ FRC]\  
[ OOS][ TWAY] COMPL

### **Hierarchical**

---

[O.14071]

M hh:mm:ss xy,ww n[vv] SW ROLL uvmnp,wxkqr[ INCL][ FRC][ OOS]\  
[ TWAY] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.14071.01]

M hh:mm:ss xy,ww n[vv] SW ROLL [s]abc,[t]ghi\  
[ INCL][ FRC][ OOS][ TWAY][ mmm,nnn] COND cc DNY

### **Hierarchical**

---

[O.14071.01]

M hh:mm:ss xy,ww n[vv] SW ROLL uvmnp,wxkqr\  
[ INCL][ FRC][ OOS][ TWAY][ mmm,nnn] COND cc DNY

### **Autonomous Message**

---

Not applicable.



## Explanation Of Parameters

**ROLL** - Roll

**OLD** - Old  
The old termination

**NEW** - New  
The new termination

**[s]abc** - The 3- or 4-digit nonhierarchical OLD NPC number

**[t]ghi** - The 3- or 4-digit nonhierarchical NEW NPC number

**Note:** Valid types for old and new NPC's are DExyz, DAxyz, TExyz and TAxzy.

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical OLD NPC number  
**wxkqr** - Hierarchical NEW NPC number

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

The values are listed below:

DE and DA type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**INCL** - Inclusive

A circuit designated as a customer controlled circuit or a red circuit cannot be modified without using the inclusive keyword in the message. Also, an NPC which supports these circuits cannot be manually removed unless the INCL keyword is given in the remove message.

**FRC** - Force

The FRC keyword is used to force a roll to an NPC which is in CGA.

**OOS** - Out of service

The OOS keyword is used to force a roll from an NPC which is out of service.

**TWAY** - Two-way

The TWAY keyword is used to request a two-way Roll (Bridge and Roll combined).

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                                                        |
|-----------|------------------------------------------------------------------------|
| <b>02</b> | Subject entity is not equipped                                         |
| <b>04</b> | Subject entity is out of service                                       |
| <b>05</b> | Subject entity is pested                                               |
| <b>1E</b> | Customer control or red circuit exists                                 |
| <b>01</b> | Invalid range for specified NPC type                                   |
| <b>12</b> | Active CCN side not IS or failed or pested or hardware OOS             |
| <b>13</b> | UNIT not equipped, not in service, or failed                           |
| <b>14</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS  |
| <b>15</b> | FTMI not equipped, not in service, or failed                           |
| <b>16</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS    |
| <b>17</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS  |
| <b>18</b> | DSPI not equipped, not in service, or failed                           |
| <b>C8</b> | Exceeded depth limit of 6 on broadcast conference concatenation        |
| <b>1A</b> | Required FLI not equipped, not in service, or failed                   |
| <b>1B</b> | Required MXR not equipped, not in service, or failed                   |
| <b>1C</b> | Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS |
| <b>1D</b> | Required MIU not equipped, not in service, or failed                   |
| <b>46</b> | NPC Failed or Out of Service                                           |
| <b>A9</b> | Cross-connect not consistent with feature package                      |
| <b>B6</b> | C-bit operations are enabled                                           |
| <b>B7</b> | No DSP unit equipped                                                   |
| <b>B8</b> | No CBTYPE NPC equipped                                                 |
| <b>B9</b> | No CBTYPE NPC capacity remaining                                       |
| <b>BA</b> | Inactive side NPC out of service and inactive side in service          |
| <b>0A</b> | All CBTYPE NPCs out of service or failed                               |
| <b>E0</b> | ETSI not equipped, not in service, or failed                           |
| <b>67</b> | Improper roll command sequence                                         |
| <b>6A</b> | New in CGA or PBA                                                      |
| <b>6B</b> | No mapped channel on old                                               |
| <b>75</b> | Old and new channels have not been paired by a BCAST command.          |
| <b>79</b> | DCTN conference channel cannot be rolled                               |
| <b>7A</b> | Testport/testgroup channel cannot be rolled                            |
| <b>7B</b> | Channel out of bound in a BCON/v.c                                     |
| <b>7C</b> | Parity channel out of bound on new                                     |
| <b>7D</b> | Not first channel in a BCON/virtual conf                               |
| <b>9C</b> | Parity channel cannot be within the range of a DS0 command.            |

## **SW,UNIT,FLI,TOPRTN**

### **SWITCH FLI TO PROTECTION**

#### **Explanation Of Command**

This message requests and reports a switch from the selected facility line interface (FLI) on a DS3 unit. This message only covers the direction of switch from the service FLI in a DS3 unit to protection. The other direction of the FLI switch is covered in Message I.35105. The output message reports the occurrence of autonomous protection switching.

#### **Command**

[I.35101]

**SW:FRM xy,SEQ ww:UNIT [q]q,FLI, TOPRTN!**

#### **Completion Message**

[O.35101]

**M hh:mm:ss xy,ww n[vv] SW UNIT [q]q FLI TOPRTN COMPL**

#### **Denial Message**

[O.35101.01]

**M hh:mm:ss xy,ww n[vv] SW UNIT [q]q FLI TOPRTN COND cc DNY**

#### **Autonomous Message**

[O.35101]

**I hh:mm:ss xy,ww SW UNIT [q]q FLI TOPRTN COMPL**

## **Explanation Of Parameters**

---

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**FLI** - Facility Line Interface

**TOPRTN** - To protection pack

**I** - Information priority of action

**M** - Manual priority of action

**A** - Autonomous priority of action

**cc** - Hexadecimal condition code

**cc** *Explanation*

**10** Unit is not equipped

**11** UC is out of service

**12** UC is in service but failed

**40** The service FLI is out of service or pested (TOSRVC option)

**41** The protection FLI is out of service or pested (TOPRTN option)

**42** The service FLI is already selected (TOSRVC option)

**43** The protection FLI is already selected (TOPRTN option)

## **SW,UNIT,FLI,TOSRVC**

### **SWITCH FLI TO SERVICE**

#### **Explanation Of Command**

This message requests and reports a switch from the protected facility line interface (FLI) on a DS3 unit to the service FLI. The output message reports the occurrence of automatic switchback.

#### **Command**

#### **Hierarchical**

[I.35105]

SW:FRM xy,SEQ ww:UNIT [q]q,FLI,TOSRVC!

#### **Completion Message**

[O.35105]

M hh:mm:ss xy,ww n[vv] SW UNIT [q]q FLI TOSRVC COMPL

#### **Denial Message**

M hh:mm:ss xy,ww n[vv] SW UNIT [q]q FLI TOSRVC COND cc DNY

#### **Autonomous Message**

[O.35105]

I hh:mm:ss xy,ww SW UNIT [q]q FLI TOSRVC COMPL

### **Explanation Of Parameters**

---

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**TOSRVC** - To Service Pack

**cc** - Hexadecimal condition code

**cc** *Explanation*

**10** Unit is not equipped

**11** UC is out of service

**12** UC is in service but failed

**40** The service FLI is out of service or pested (TOSRVC option)

**42** The service FLI is already selected (TOSRVC option)



## **SW,UNIT,MMFG,TOPRTN,FRC**

### **SWITCH MMFG TO PROTECTION**

#### **Explanation Of Command**

This command requests and reports a switch from multiplexer-multiple interface unit functional group (MMFG) c to MMFG P on a DS3 unit. The input message can force MMFG P to serve the MMFG c facility, even though MMFG P was serving another facility which can result in that facility being out-of-service. Alarm reporting is discussed below in the case of a switch that results in that facility being out-of-service.

**Alarm reporting in the case of double MMFG failures:**

(For example, a unit is equipped with MMFG 1 , 2 and P).

Event           MMFG 1 fails  
Automatic protection switch occurs

Message       I hh:mm:ss xy,ww SW UNIT q MMFG 1 TOPRTN COMPL  
MMFG 1 is autonomously removed

Message       \*\*hh:mm:ss xy,ww RMV UNIT q MMFG 1 COMPL

Event           MMFG 2 fails

Message       \*C hh:mm:ss xy,ww RMV UNIT q MMFG 2 COND cc DNY

Event           The craft decides that MMFG-2 is more important and makes  
a switch

Command       SW:FRM xy,ww:UNIT q,MMFG 2,TOPRTN,FRC!

Message       M hh:mm:ss xy,ww[ n[vv]] SW UNIT q MMFG 1 TOPRTN FRC COMPL  
MMFG 1 will switch back to service automatically

Message       I hh:mm:ss xy,ww SW UNIT q MMFG 1 TOSRVC COMPL

Notice that after the switch to protection of MMFG 2, there will be no alarm reporting associated with loss of service of MMFG 1. The alarm condition, which is escalated to critical after loss of service of MMFG 2, actually covers both failures. If the FRC keyword is used, then the MMFG that WAS under protection will no longer be in alarm but will still need to be restored. When the FRC keyword is used, the alarm is idled on the MMFG that WAS under protection, even though it is still OOS. Note also that the autonomous switch message will precede the removal command on the first failure.

**Command**

[I.35111]

**SW:FRM xy,SEQ ww:UNIT [q]q,MMFG c,TOPRTN[,FRC]!**

### **Completion Message**

---

[O.35111]

M hh:mm:ss xy,ww[ n[vv]] SW UNIT [q]q MMFG c TOPRTN[ FRC] \  
COMPL

### **Denial Message**

---

[O.35111.01]

M hh:mm:ss xy,ww n[vv] SW UNIT [q]q MMFG c TOPRTN[ FRC] COND \  
cc DNY

### **Autonomous Message**

---

[O.35111]

I hh:mm:ss xy,ww[ n[vv]] SW UNIT [q]q MMFG c TOPRTN[ FRC] \  
COMPL

### **Explanation Of Parameters**

---

- UNIT** - Unit
- [q]q** - Unit number (1 through 16)
- MMFG** - Multiplexer-multiplexer interface unit functional Group
- c** - The number of the service MMFG within the unit ( $1 \leq c \leq 6$ )
- TOPRTN** - Protection Pack
- FRC** - Force the switch to protection MMFG even though it was serving another facility.
- cc** - Hexadecimal condition code

#### **cc Explanation**

- 10** Unit is not equipped
- 11** UC is out of service
- 12** UC is in service but failed
- 1A** Required FLI not equipped, not in service,  
or failed

**cc Explanation**

- 1C** Req'd FMT not eq'd, not IS, or failed, or inactive FMT not eq'd, or not IS
- 44** Service MXR is not equipped
- 47** Protection MXR is out of service
- 48** Protection MIU is not equipped
- 49** Protection MIU is out of service
- 4A** The protection MMFG is serving another facility
- 4B** The Service MMFG is already under protection

## **SW,UNIT,MMFG,TOSRVC**

### **SWITCH MMFG TO SERVICE**

#### **Explanation Of Command**

This command requests and reports a switch from multiplexer-multiple interface unit functional group (MMFG) P to MMFG c on a DS3 unit. MMFG P was serving the DS3 facility associated with MMFG c. The output message also reports the occurrence of automatic switchback from protection.

#### **Command**

[I.35121]

**SW:FRM xy,SEQ ww:UNIT [q]q,MMFG c,TOSRVC!**

#### **Completion Message**

[O.35121]

**M hh:mm:ss xy,ww n[vv] SW UNIT [q]q MMFG c TOSRVC COMPL**

#### **Denial Message**

[O.35121.01]

**M hh:mm:ss xy,ww n[vv] SW UNIT [q]q MMFG c TOSRVC COND cc DNY**

#### **Autonomous Message**

[O.35121]

**I hh:mm:ss xy,ww SW UNIT [q]q MMFG c TOSRVC COMPL**

### **Explanation Of Parameters**

---

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**MMFG** - Multiplexer-multiplexer interface unit functional group

**c** - The number of the service MMFG within the unit (1 through 6)

**TOSRVC** - To service

Priority of action

**I** - Information

**M** - Manual

**cc** - Hexadecimal condition code

**cc** *Explanation*

**10** Unit is not equipped

**11** UC is out of service

**12** UC is in service but failed

**1A** Required FLI not equipped, not in service, or failed

**1C** Req'd FMT not eq'd, not IS, or failed, or inact side FMT not eq'd, or not IS

**44** Service MXR is not equipped

**45** Service MXR is out of service

**46** Service MIU is out of service

**4C** The Service MMFG is not under protection

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**DACS II**  
**Release 7.0.3 PDS**  
**Command and Message Manual**

Addendum — Volume III

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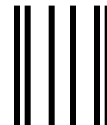
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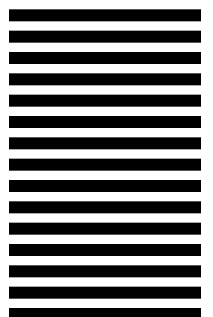
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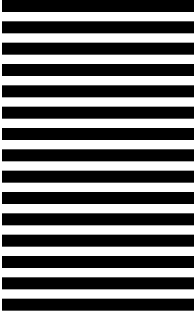
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# About This Document

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## Purpose

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The *DACS II Release 7.0 Command and Message Manual* describes the input commands and output messages of Release 7.0 of the Digital Access and Cross-Connect System II (DACS II). In addition, it provides full support for previous product releases.

 **NOTE:**

Those customers using this manual with Releases 3 through 6.1 software should be aware that all features of a particular message shown for Release 7.0 may or may not apply to previous releases.

This manual consists of three volumes as follows:

- **Volume I** - This volume contains general information about the document, a detailed introduction that defines DACS II messages, relates how to communicate with DACS II, introduces the administrative links, and discusses in detail NPC addressing, on-line help feature, system configuration and features a listing of related documentation and a glossary. Message listings in this volume include alphabetical and numerical, summary list of input commands and a list of autonomous messages. A comprehensive presentation of input commands and output messages (ABT through DGN) concludes this volume.
- **Volume II and III** - These two volumes contain input commands and output messages in the following order:
  - **Volume II** - DGRTH through SW
  - **Volume III** - TABS through UTL

---

## **Release 7.0.3 Addendum**

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The *DACS II Release 7.0.3 Command and Message Manual Addendum* consists of the following list of items to be inserted or replaced in your *DACS II Release 7.0 Command and Message Manual*:

- Updated manual Table of Contents for each volume
- Updated "About this Document" section for each volume
- Updated "Alphabetic Message List" (Chapter 2)
- Updated "Numeric Message List" (Chapter 3)
- Updated "Summary of Input Commands" (Chapter 4)
- New section, "Release 7.0.3 Addendum," consisting of updated and new commands applicable to Release 7.0.3.
- Updated manual index for each volume

The instructional page enclosed with the Addendum will explain how to incorporate these new items into the Release 7.0 documentation.

## **Intended Audiences**

---

This manual is a catalog of messages intended for reference by a technician or craftperson who needs additional details about a message. It provides the user with supplemental information for the Digital Access and Cross-Connect System II (DACS II) that is programmed in the Program Documentation Standards (PDS) language. An example of a user is someone performing a task from an operation and maintenance manual who needs the definition of a specific keyword to complete the task.

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---

## **TABS — TTST**

---

This section documents the commands **TABS** through **TTST**.

## **TABS**

---

### **TABS COMPLETE**

#### **Explanation Of Command**

---

This autonomous message indicates a remote TABS (Telemetry Asynchronous Block Serial) protocol request has completed on DACS II.

#### **Command**

---

Not applicable.

#### **Completion Message**

---

Not applicable.

#### **Denial Message**

---

Not applicable.

#### **Autonomous Message**

---

[O.55705]

I hh:mm:ss xy,ww TABS COMPL

#### **Explanation Of Parameters**

---

**TABS** - Telemetry asynchronous block serial



## **TABS,IN,PROGRESS**

### **TELEMETRY ASYNCHRONOUS BLOCK SERIAL IN PROGRESS**

#### **Explanation Of Command**

This autonomous output message indicates that a remote request using a telemetry asynchronous block serial protocol has been submitted to the DACS II frame and is in progress.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.55704]

I hh:mm:ss xy,ww    TABS IN PROGRESS

#### **Explanation Of Parameters**

**TABS**    - Telemetry asynchronous block serial

## **TCNT, FROM, TO, AIS, CUS, INCL, RDC, PRIOUT**

### **TWO-WAY CROSS-CONNECTION TERMINATED**

#### **Explanation Of Command**

This command requests a set of terminated cross-connections over a range of specified From-direction and To-direction terminations.

The circuit will be formed in the terminated state with the disconnect code (DCC) inserted in both directions of transmission unless the trunk conditioning was specified as **TRSP, MUX**; in this case, the Unassigned Multiplex Code (UMC), equal to hex 18, is inserted.

#### **Command**

##### **Nonhierarchical**

[I.12001]

```
TCNT:[FRM xy,SEQ ww]:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\  
<tc>[,AIS][,{CUS|INCL}][,RDC][,PRIOUT]!
```

##### **Hierarchical**

[I.12001]

```
TCNT:[FRM xy,SEQ ww]:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\  
<tc>[,AIS][,{CUS|INCL}][,RDC][,PRIOUT]!
```

## **Completion Message**

---

### **Nonhierarchical**

---

[O.12001]

M hh:mm:ss xy,ww n[vv] TCNT [s]abcddd[-eee],[t]ghijjj[-kkk] \  
<tc>[ AIS][ CUS][ RDC][ PRIOUT] COMPL

[O.12002]

M hh:mm:ss xy,ww n[vv] TCNT [s]abcddd[-eee],[t]ghijjj[-kkk] 2 LN MSG:  
<tc>[ AIS][ CUS][ RDC][ PRIOUT] COMPL

### **Hierarchical**

---

[O.12001]

M hh:mm:ss xy,ww n[vv] TCNT uvmnpddd[-eee],wxkqrjjj[-kkk] \  
<tc>[ AIS][ CUS][ RDC][ PRIOUT] COMPL

[O.12002]

M hh:mm:ss xy,ww n[vv] TCNT uvmnpddd[-eee],wxkqrjjj[-kkk] 2 LN MSG:  
<tc>[ AIS][ CUS][ RDC][ PRIOUT] COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.12001.01]

M hh:mm:ss xy,ww n[vv] TCNT [s]abcddd[-eee],[t]ghijjj[-kkk]\  
[ mmm,nnn] cc <st> DNY

[O.12001.02]

M hh:mm:ss xy,ww n[vv] TCNT [s]abcddd[-eee],[t]ghijjj[-kkk]\  
[ mmm,nnn] <d> <st> DNY

## Hierarchical

[O.12001.01]

**M** hh:mm:ss xy,ww n[vv] TCNT uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ mmm,nnn] cc <st> DNY

[O.12001.02]

**M** hh:mm:ss xy,ww n[vv] TCNT uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ mmm,nnn] <d> <st> DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**FROM** - From

**[s]abcd**

- Nonhierarchical termination in to direction

**[s]abc** - The 3- or 4-digit NPC number  
**ddd** - Channel number, beginning of range

**TO** - To

**[s]ghij**

- Nonhierarchical termination in from direction

**[s]ghi** - NPC number  
**jjj** - Channel number, beginning of range  
The values are listed below:

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

#### uvmnpddd

- Hierarchical termination in from direction

#### wxkqrjjj

- Hierarchical termination in to direction

**uv, wx** - Unit number

**m, k** - Module number

**np, qr** - NPC number within the module

**ddd, jjj**

- Channel number, beginning of range

The values are listed below:

DE, DS, and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

#### eee, kkk

- Channel numbers for end of channel range

To connect a range of channels, use the optional fields **eee** and **kkk**.

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

The Facility Data Link (FDL) channel 000 is not allowed in a range.  
Only the FDL of DE type NPC with ESF Format can be cross-connected.

**tc** - Trunk conditioning

Defines the cross-connected insertion word and signaling applied to the circuit during a failure condition. The insertion word and signaling are separately specified, using a comma as the delimiter.

Valid values for two-way cross-connects are:

| <i>4-state signaling</i>      | <i>16-state signaling</i>             |
|-------------------------------|---------------------------------------|
| <b>TC(ijkl,mnop), TRB</b>     | <b>TC(efghijkl,mnopqrst), TRB</b>     |
| <b>TC(ijkl,mnop), IW X'nn</b> | <b>TC(X'uv,X'yz), TRB</b>             |
|                               | <b>TC(efghijkl,mnopqrst), IW X'nn</b> |
|                               | <b>TC(X'uv,X'yz), IW X'nn</b>         |

*Transparent signaling*

**TRSP, TRB**  
**TRSP, IW X'nn**  
**TRSP, MUX**  
**TRSP**

**Note:** For ESF type framing, 4-state signaling will be expanded to 16-state by duplicating the bits.

**ijkl** - 4-state binary signaling value - From direction

**mnop** - 4-state binary signaling value - To direction

**efghijkl**

- 16-state binary signaling value - From direction

**mnopqrst**

- 16-state binary signaling value - To direction

**uv** - 16-state hexadecimal signaling value - From direction

**yz** - 16-state hexadecimal signaling value - To direction

**nn** - Hexadecimal Insertion Word

**TRB** - Trouble Code

Equal to **nn** value of **E4**.

**MUX** - Multiplexer Out of Sync Code

Equal to **nn** value of **1A**. This keyword can not be entered in combination with signaling trunk conditioning. Instead, it must always be accompanied by the **TRSP** keyword. The Multiplexer Out of Sync Code is only used for cross-connections of T1DM data circuits which do not use robbed bit signaling.

**TRSP** - Transparent

No robbed bit signaling is performed.

**Note:** In a gateway application, when E1 channels are connected to T1 channels, the following rules apply to the transmittal of the Insertion Word (IW) towards the facility. If the Insertion Word needs to be transmitted towards the facility as a result of consequent action, then the Insertion Word transmitted by the T1 NPC towards its transmission facility is the Insertion Word specified in this command; however, the Insertion Word transmitted by the E1 NPC towards its facility is always X'FF.

**AIS** - Alarm indication signal

This optional keyword is used to cause the all ones signal to be inserted on the downstream digroup when detected on the incoming digroup or when the incoming digroup exhibits a CGA (Carrier Group Alarm).

**CUS** - Customer

This optional keyword is used to flag a circuit as a customer controlled circuit. On output it indicates that the circuit is customer controlled.

**RDC** - Red circuit

This optional keyword is used to mark a circuit as a Red Circuit. On output it indicates that the circuit is a Red Circuit.



**INCL** - Inclusive

A termination designated as a customer controlled circuit or a red circuit cannot be disconnected or modified without using this keyword in the message. Also, an NPC which supports these circuits cannot be manually removed unless this keyword is given in the remove command.

**PRIOUT** - Priority Output

This keyword is used on the command line to prioritize the output response.

**mmm** - The From-direction channel number involved in denial (**ddd** through **eee**).

**nnn** - The To-direction channel number involved in denial (**jjj** through **kkk**).

**d** - Direction

|          |                    |
|----------|--------------------|
| <b>d</b> | <i>Explanation</i> |
| <b>F</b> | FROM               |
| <b>T</b> | TO                 |
| <b>B</b> | Both               |

**st** - Status of denial

**cc** - Hexadecimal condition code

|           |              |                                                                           |
|-----------|--------------|---------------------------------------------------------------------------|
| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                        |
| <b>06</b> | <b>INERR</b> | Invalid range for specified FROM NPC type                                 |
| <b>07</b> | <b>INERR</b> | Invalid range for specified TO NPC type                                   |
| <b>08</b> | <b>INERR</b> | Invalid FROM NPC type for AIS insertion                                   |
| <b>09</b> | <b>INERR</b> | Invalid TO NPC type for AIS insertion                                     |
| <b>12</b> | <b>MCOND</b> | Active CCN side not IS or failed or pested or hardware OOS                |
| <b>13</b> | <b>MCOND</b> | UNIT not equipped, not in service, or failed                              |
| <b>14</b> | <b>MCOND</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS     |
| <b>15</b> | <b>MCOND</b> | FTMI not equipped, not in service, or failed                              |
| <b>16</b> | <b>MCOND</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS       |
| <b>17</b> | <b>MCOND</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS     |
| <b>20</b> | <b>MCOND</b> | Line format types are incompatible                                        |
| <b>21</b> | <b>MCOND</b> | Trunk conditioning is invalid                                             |
| <b>22</b> | <b>MCOND</b> | FMC cannot be cross-connected in this format                              |
| <b>1A</b> | <b>MCOND</b> | Required FLI not equipped, not in service, or failed                      |
| <b>1B</b> | <b>MCOND</b> | Required MXR not equipped, not in service, or failed                      |
| <b>1C</b> | <b>MCOND</b> | Reqd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS |

| cc | st    | Explanation                                                |
|----|-------|------------------------------------------------------------|
| 1D | MCOND | Required MIU not equipped, not in service, or failed       |
| D0 | SCERR | FROM NPC is not provisioned as DGA                         |
| D1 | SCERR | TO NPC is not provisioned as DGA                           |
| D6 | INERR | Invalid FROM channel number                                |
| D7 | INERR | Invalid TO channel number                                  |
| D9 | INERR | Invalid FROM channel number range                          |
| DA | INERR | Invalid TO channel number range                            |
| DC | INERR | A loopback is active on the FROM termination               |
| DD | INERR | A loopback is active on the TO termination                 |
| DF | INERR | Unmatched channel range                                    |
| E0 | SCERR | Unmatched channel range involving SLC Mode III termination |
| E4 | SCERR | RT-DCLU cross-connect with different ids                   |
| E5 | SCERR | RT-DCLU cross-connect with different channel number        |
| E6 | SCERR | Cross-connect a non Mode I channel to DCLU                 |
| E7 | SCERR | Cross-connect a non SLC channel to DCLU                    |
| E8 | INERR | SC invalid for cross-connection specified                  |
| E9 | INERR | MUX or TRB invalid for cross-connection specified          |
| EA | INERR | AIS invalid for cross-connection specified                 |
| EC | INERR | Invalid channel 000 cross-connection specified             |
| ED | INERR | Invalid channel 031 cross-connection specified             |
| EE | INERR | Trunk type is not allowed in the circuit specified         |
| 40 | MCOND | Not enough DSPPs are equipped                              |
| 41 | MCOND | Not enough DSPPs are in service                            |
| FF | ROLL  | Termination is in process of being rolled                  |

| st   | d       | Explanation                   |
|------|---------|-------------------------------|
| ASGN | {F T B} | Termination assigned          |
| CUS  | {F T B} | Customer-controlled Circuit   |
| FAIL | {F T B} | Failed                        |
| OOS  | {F T B} | Out-of-service                |
| RDC  | {F T B} | Red Circuit                   |
| ROLL | {F T B} | Circuit is involved in a roll |
| TG   | {F T B} | NPC is grown as a test group  |
| TP   | {F T B} | NPC is used for test access   |
| UEQD | {F T B} | Unequipped                    |
| UTST | {F T B} | Under Test                    |

## **TCNT, FROM, TO, MPM, NTR, RDC, CUS, INCL**

**TWO-WAY CROSS-CONNECT TERMINATE,  
FROM, TO, MULTIPOINT MODE**

### **Explanation Of Command**

This message requests the two-way terminated cross-connection of a leg to a multipoint circuit. The circuit will be set up in the terminated state with the disconnect channel code (DCC) inserted in both directions of transmission.

**Note:** Range values apply only to the FTU end of an FTU to Virtual NPC circuit.

### **Command**

#### **Nonhierarchical**

[I.12021]

```
TCNT:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\  
MPM(fmd,tmd),<tc>[,NTR m][,RDC][,{CUS|INCL}]!
```

#### **Hierarchical**

[I.12021]

```
TCNT:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\  
MPM(fmd,tmd),<tc>[,NTR m][,RDC][,{CUS|INCL}]!
```

## **Completion Message**

---

### **Nonhierarchical**

---

[O.12021]

M hh:mm:ss xy,ww n[vv] TCNT [s]abcddd[-eee],[t]ghijjj[-kkk] \\  
2 LN MSG:  
fmd,tmd <tc>[ NTR m][ NOBBL {F|T}][ CUS][ RDC] COMPL

### **Hierarchical**

---

[O.12021]

M hh:mm:ss xy,ww n[vv] TCNT uvmnpddd[-eee],wxkqrjjj[-kkk] \\  
2 LN MSG:  
fmd,tmd <tc>[ NTR m][ NOBBL {F|T}][ CUS][ RDC] COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.12021.01]

M hh:mm:ss xy,ww n[vv] TCNT [s]abcddd[-eee],[t]ghijjj[-kkk] \\  
[ mmm,nnn] cc <st> DNY

[O.12021.02]

M hh:mm:ss xy,ww n[vv] TCNT [s]abcddd[-eee],[t]ghijjj[-kkk] \\  
[ mmm,nnn] <d> <st> DNY

### **Hierarchical**

---

[O.12021.01]

M hh:mm:ss xy,ww n[vv] TCNT uvmnpddd[-eee],wxkqrjjj[-kkk] \\  
[ mmm,nnn] cc <st> DNY

[O.12021.02]

M hh:mm:ss xy,ww n[vv] TCNT uvmnpddd[-eee],wxkqrjjj[-kkk] \\  
[ mmm,nnn] <d> <st> DNY

### Autonomous Message

Not applicable.

### Explanation Of Parameters

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number  
[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-002</b> | <b>161-162</b> | <b>321-322</b> | <b>481-482</b> | <b>641-642</b> | <b>801-802</b> |
| <b>021-022</b> | <b>181-182</b> | <b>341-342</b> | <b>501-502</b> | <b>661-662</b> | <b>821-822</b> |
| <b>041-042</b> | <b>201-202</b> | <b>361-362</b> | <b>521-522</b> | <b>681-682</b> | <b>841-842</b> |
| <b>061-062</b> | <b>221-222</b> | <b>381-382</b> | <b>541-542</b> | <b>701-702</b> | <b>861-862</b> |
| <b>081-082</b> | <b>241-242</b> | <b>401-402</b> | <b>561-562</b> | <b>721-722</b> | <b>881-882</b> |
| <b>101-102</b> | <b>261-262</b> | <b>421-422</b> | <b>581-582</b> | <b>741-742</b> | <b>901-902</b> |
| <b>121-122</b> | <b>281-282</b> | <b>441-442</b> | <b>601-602</b> | <b>761-762</b> | <b>921-922</b> |
| <b>141-142</b> | <b>301-302</b> | <b>461-462</b> | <b>621-622</b> | <b>781-782</b> | <b>941-942</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0002</b> | <b>0161-0162</b> | <b>0321-0322</b> | <b>0481-0482</b> |
| <b>0021-0022</b> | <b>0181-0182</b> | <b>0341-0342</b> | <b>0501-0502</b> |
| <b>0041-0042</b> | <b>0201-0202</b> | <b>0361-0362</b> | <b>0521-0522</b> |
| <b>0061-0062</b> | <b>0221-0222</b> | <b>0381-0382</b> | <b>0541-0542</b> |
| <b>0081-0082</b> | <b>0241-0242</b> | <b>0401-0402</b> | <b>0561-0562</b> |
| <b>0101-0102</b> | <b>0261-0262</b> | <b>0421-0422</b> | <b>0581-0582</b> |
| <b>0121-0122</b> | <b>0281-0282</b> | <b>0441-0442</b> | <b>0601-0602</b> |
| <b>0141-0142</b> | <b>0301-0302</b> | <b>0461-0462</b> | <b>0621-0622</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0642</b> | <b>0801-0802</b> | <b>0961-0962</b> | <b>1121-1122</b> |
| <b>0661-0662</b> | <b>0821-0822</b> | <b>0981-0982</b> | <b>1141-1142</b> |
| <b>0681-0682</b> | <b>0841-0842</b> | <b>1001-1002</b> | <b>1161-1161</b> |
| <b>0701-0702</b> | <b>0861-0862</b> | <b>1021-1022</b> | <b>1181-1182</b> |
| <b>0721-0722</b> | <b>0881-0882</b> | <b>1041-1042</b> | <b>1201-1202</b> |
| <b>0741-0742</b> | <b>0901-0902</b> | <b>1061-1062</b> | <b>1221-1222</b> |
| <b>0761-0762</b> | <b>0921-0922</b> | <b>1081-1082</b> | <b>1241-1242</b> |
| <b>0781-0782</b> | <b>0941-0942</b> | <b>1101-1102</b> | <b>1261-1262</b> |

| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1282</b> | <b>1441-1442</b> | <b>1601-1602</b> | <b>1761-1762</b> |
| <b>1301-1302</b> | <b>1461-1462</b> | <b>1621-1622</b> | <b>1781-1782</b> |
| <b>1321-1322</b> | <b>1481-1482</b> | <b>1641-1642</b> | <b>1801-1802</b> |
| <b>1341-1342</b> | <b>1501-1502</b> | <b>1661-1662</b> | <b>1821-1822</b> |
| <b>1361-1362</b> | <b>1521-1522</b> | <b>1681-1682</b> | <b>1841-1842</b> |
| <b>1381-1382</b> | <b>1541-1542</b> | <b>1701-1702</b> | <b>1861-1862</b> |
| <b>1401-1402</b> | <b>1561-1562</b> | <b>1721-1722</b> | <b>1881-1882</b> |
| <b>1421-1422</b> | <b>1581-1582</b> | <b>1741-1742</b> | <b>1901-1902</b> |

| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-1922</b> | <b>2081-2082</b> | <b>2241-2242</b> | <b>2401-2402</b> |
| <b>1941-1942</b> | <b>2101-2102</b> | <b>2261-2262</b> | <b>2421-2422</b> |
| <b>1961-1962</b> | <b>2121-2122</b> | <b>2281-2282</b> | <b>2441-2442</b> |
| <b>1981-1982</b> | <b>2141-2142</b> | <b>2301-2302</b> | <b>2461-2462</b> |
| <b>2001-2002</b> | <b>2161-2162</b> | <b>2321-2322</b> | <b>2481-2482</b> |
| <b>2021-2022</b> | <b>2181-2182</b> | <b>2341-2342</b> | <b>2501-2502</b> |
| <b>2041-2042</b> | <b>2201-2202</b> | <b>2361-2362</b> | <b>2521-2522</b> |
| <b>2061-2062</b> | <b>2221-2222</b> | <b>2381-2382</b> | <b>2541-2542</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

DACS II Non-CEF frames support two virtual NPCs using the three digit NPC numbering scheme. The valid values for Non-CEF frames are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit  
-

**NPC**  
**961-962**

DACS II CEF frames support six virtual NPCs using either a three digit or four digit NPC numbering scheme. If NPC numbers are expressed in three digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit  
-

**NPC**  
**961-966**



If NPC numbers are expressed in four digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit  
-

**NPC**  
**9961-9966**

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**uv, wx** - Unit number  
**m, k** - Module number  
**np, qr** - NPC number within the module

The list of valid values given below is limited by the equipage of the frame.

DE and DS type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

MB type NPC numbers listed by unit, module, and NPC Number

Unit Type DP (DSPU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-8</b> | <b>01-02</b> |

TE NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

VI NPC numbers listed by unit, module, and NPC Number

Unit Type VI (Virtual)

| Unit      | Module   | NPC          |                                 |
|-----------|----------|--------------|---------------------------------|
| <b>99</b> | <b>1</b> | <b>01-02</b> | <b>(DACS II Non-CEF frames)</b> |
| <b>99</b> | <b>1</b> | <b>01-06</b> | <b>(DACS II CEF frames)</b>     |

**ddd,**  
**jjj**  
**eee,**  
**kkk**

- Channel numbers

- Channel numbers denoting the end of a range specification

Range variables **eee** and **kkk** apply only to the FTU end of an FTU to Virtual NPC circuit; that is, they cannot apply to the Virtual NPC end. Range variables do not apply to either end of an FTU to DMB or DMB to DMB circuit.

Channel numbers  
001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

Conference numbers  
001-085 (MB NPC)  
  
001-500 (Virtual NPC)

Cross-connections may be between various Network Processing Circuit (NPC) types:

Facility Terminating Unit (IFTU/FTU)/DS3U NPC and DMB  
DMB and DMB  
IFTU/FTU/DS3U NPC and Virtual NPC

**MPM** - Multipoint mode

**fmd** - Multipoint mode of FROM end of the circuit

**tmd** - Multipoint mode of TO end of the circuit

The direction of data flow is indicated by MPM (**fmd**, **tmd**)

For DMB circuits, there are four possible values for fmd and tmd:

| <b>fmd</b> |                                                                                             |
|------------|---------------------------------------------------------------------------------------------|
| <b>tmd</b> | <i>Explanation</i>                                                                          |
| SYM        | For legs of a symmetrical multipoint circuit (must be a DMB channel)                        |
| BRD        | For nonbackbone (tributary) legs of a broadcast multipoint circuit (must be a DMB channel)  |
| BBL        | For the backbone leg of a broadcast multipoint circuit (must be a DMB channel)              |
| LEG        | For the end that does not terminate on the multipoint circuit (must be an FTU/DS3U channel) |

For virtual NPC circuits, there are three possible values for fmd and tmd:

| <b>fmd</b> |                                                                                           |
|------------|-------------------------------------------------------------------------------------------|
| <b>tmd</b> | <i>Explanation</i>                                                                        |
| BRD        | For nonbackbone legs of a broadcast multipoint circuit (must be a virtual NPC channel)    |
| BBL        | For the backbone leg of a broadcast multipoint circuit (must be a virtual NPC channel)    |
| LEG        | For the end that does not terminate on the multipoint circuit (must be FTU/DS3U channels) |

The possible combinations are:

For within a DMB or virtual conference:

LEG,BBL  
LEG,BRD  
SYM,LEG (only for DMB)

For concatenation of conferences:

BRD,BBL  
BBL,BBL  
SYM,SYM

**Note:** To avoid possible transmission delays in the conferencers, DACS II will not allow DMB broadcast conferences to be concatenated more than six deep. However, each concatenated conference will support the maximum allowable number of legs. This allows conferences to branch out at any point in the daisy chain, as long as each branch does not concatenate more than six conferences from the backbone leg.

**Note:** Default values for noise guard (NG) and echo suppression (ES) are applied to symmetrical bridges (multipoint mode SYM) and polling circuits (multipoint mode BBL, BRD). These default values are:

|                     |            |            |
|---------------------|------------|------------|
| Symmetrical bridges | NG = -18db | ES = -18db |
| Polling circuits    | NG = 0db   | ES = 0db   |

**tc** - Trunk conditioning

Represents the desired cross-connected signaling and insertion word applied when a failure occurs. A trunk conditioning specification consists of a combination of a signaling specification followed by an insertion word specification. For example, TRSP, IW X'pq (input form).

The following signaling options are allowed:

| <i>signaling</i> | <i>Explanation</i>        |
|------------------|---------------------------|
| TRSP             | Transparent, no signaling |

The following insertion word options are allowed:

| <i>insertion word</i> | <i>Explanation</i>                                                                                                                                                               |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IW X'pq               | pq is a user specified insertion word. The binary pattern corresponding to the hexadecimal value of pq will be inserted in the downstream direction of a failure on either line. |
| TRB                   | Standard trouble code, equal to IW X'E4                                                                                                                                          |
| MUX                   | MUX out of sync code, equal to IW X'1A.                                                                                                                                          |

All leg connections to multipoint circuits using a DMB NPC or a Virtual NPC must use TRSP signaling. The insertion word portion is user specified as noted above and may be varied from leg to leg.

For all multipoint to multipoint conference cross-connections (DMB concatenated conferences) the only allowable trunk conditioning specification is TRSP, and need not be specified, as it is the default. An insertion word is not valid for concatenated conferences.

**Note:** In a gateway application, when E1 channels are connected to T1 channels, the following rules apply to the transmittal of the Insertion Word (IW) towards the facility. If the Insertion Word needs to be transmitted towards the facility as a result of consequent action, then the Insertion Word transmitted by the T1 NPC towards its transmission facility is the Insertion Word specified in this command; however, the Insertion Word transmitted by the

E1 NPC towards its facility is always X'FF.

**NTR** - No transmit

**m** - Direction in which transmission is shut off

| <i>m</i> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|   |      |
|---|------|
| F | FROM |
|---|------|

|   |    |
|---|----|
| T | TO |
|---|----|

To set up one-way connections; that is, to shut off transmission towards a FROM or TO termination, use NTR and specify the direction in variable m. If NTR m is specified on the BBL (backbone leg) of a multipoint circuit, then the broadcast (BRD) legs of this circuit have their outward transmission turned off.

NTR m is optional if the virtual NPC is part of the circuit.

**NOBBL** - No backbone leg

If the type of circuit was a broadcast circuit, NOBBL indicates that no backbone leg is yet specified in either the FROM or TO direction. This argument will appear until a backbone leg is specified for this circuit.

**F** - From

**T** - To

**CUS** - Customer

Customer-controlled circuit

The optional CUS keyword is used to flag a circuit as a customer controlled circuit. On output it indicates that the circuit is customer controlled.

All legs on a multipoint customer controlled circuit must be designated as CUS.

**RDC** - Red circuit

On input the optional RDC keyword is used to mark a circuit as a Red Circuit. On output it indicates that the circuit is a Red Circuit.

All legs on a multipoint Red Circuit must be designated RDC.

**INCL** - Inclusive

A termination designated as CUS or RDC cannot be disconnected or modified without using the INCL keyword in the message. Also, an NPC which supports these circuits cannot be manually removed unless the INCL keyword is given in the remove message.

A disconnected termination previously marked CUS remains a customer controlled termination. The INCL keyword must be used to reconnect this termination to other terminations. However, if they are reconnected without the CUS keyword, they lose their customer controlled status.

**NAM** - No A-law to  $\mu$ -law

The A-law to  $\mu$ -law and  $\mu$ -law to A-law code translators on the E1 type NPC are disabled. This keyword is valid in the following types of cross-connects:

*Multi-Point:*

E1 to E1      Multi-point cross-connects have A-law to  $\mu$ -law and  $\mu$ -law to A-law set as a default. This conversion is performed on pure E1 multi-point connections in case a DS1 leg is ever added to the broadcast connection. The **NAM** keyword is used to disable the conversions. It may be desirable to disable conversions in a pure E1 multi-point cross-connect since such a connection has more quantization noise than a pure E1 two-point cross-connect. This is due to the back to back A-law to  $\mu$ -law and  $\mu$ -law to A-law conversions which are taking place.

E1 to DS1 or      Same explanation as E1 to E1.  
DS1 to E1

DS1 to DS1      Not applicable.

**mmm** - FROM channel number involved in the denial (ddd through eee)

**nnn** - TO channel number involved in the denial (jjj through kkk)

**st** - Status of denial

**d** - Direction

|   |             |
|---|-------------|
| d | Explanation |
| B | Both        |
| F | FROM        |
| T | TO          |

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b>      | <i>Explanation</i>                                                    |
|-----------|----------------|-----------------------------------------------------------------------|
| <b>06</b> | <b>INERR</b>   | Invalid range for specified FROM NPC type                             |
| <b>07</b> | <b>INERR</b>   | Invalid range for specified TO NPC type                               |
| <b>08</b> | <b>INERR</b>   | Invalid FROM NPC type for AIS insertion                               |
| <b>09</b> | <b>INERR</b>   | Invalid TO NPC type for AIS insertion                                 |
| <b>12</b> | <b>MCOND</b>   | Active CCN side not IS or failed or pested or hardware OOS            |
| <b>13</b> | <b>MCOND</b>   | UNIT not equipped, not in service, or failed                          |
| <b>14</b> | <b>MCOND</b>   | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS |
| <b>15</b> | <b>MCOND</b>   | FTMI not equipped, not in service, or failed                          |
| <b>16</b> | <b>MCOND</b>   | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS   |
| <b>17</b> | <b>MCOND</b>   | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS |
| <b>18</b> | <b>MCOND</b>   | DSPI not equipped, not in service, or failed                          |
| <b>20</b> | <b>MCOND</b>   | Line format types are incompatible                                    |
| <b>21</b> | <b>MCOND</b>   | Trunk conditioning is invalid                                         |
| <b>22</b> | <b>MCOND</b>   | FMC cannot be cross-connected in this format                          |
| <b>50</b> | <b>INERR</b>   | Trunk conditioning doesn't match that of conference                   |
| <b>51</b> | <b>INERR</b>   | CUS flag doesn't match that of conference                             |
| <b>52</b> | <b>INERR</b>   | RDC flag doesn't match that of conference                             |
| <b>70</b> | <b>CONFERR</b> | Try to add a BBL to VC, but the VC already has backbone               |
| <b>78</b> | <b>CONFERR</b> | Try to operate a ONE-WAY conference with a TWO-WAY input command      |
| <b>80</b> | <b>CONFERR</b> | Database conference width does not match the range in input command   |
| <b>83</b> | <b>INERR</b>   | Invalid input BBL in terminated TWOWAY/ONEWAY command                 |
| <b>84</b> | <b>CONFERR</b> | Trying to add or delete a leg when a conference is under test         |
| <b>85</b> | <b>CONFERR</b> | Input BRD (BBL) has same NPC and channel as BBL (BRD)                 |
| <b>A0</b> | <b>INERR</b>   | Illegal LEG LEG combination                                           |
| <b>A1</b> | <b>INERR</b>   | Illegal BBL BBL combination                                           |
| <b>A2</b> | <b>INERR</b>   | Illegal BRD BRD combination                                           |
| <b>A3</b> | <b>INERR</b>   | Illegal SYM BRD combination                                           |
| <b>A4</b> | <b>INERR</b>   | Illegal BRD SYM combination                                           |
| <b>A5</b> | <b>INERR</b>   | Illegal BBL SYM combination                                           |
| <b>A6</b> | <b>INERR</b>   | Illegal SYM BBL combination                                           |
| <b>A7</b> | <b>INERR</b>   | LEG mode was assigned to a DSPU-type NPC on the input                 |
| <b>A8</b> | <b>INERR</b>   | A DMB mode was assigned to a FTU-type NPC on the input                |
| <b>A9</b> | <b>INERR</b>   | Trying to add a BBL to a DMB conference that already has one          |
| <b>AA</b> | <b>INERR</b>   | Trying to add a broadcast leg to a conference set up as SYM           |
| <b>AB</b> | <b>INERR</b>   | Trying to add a SYM leg to conference set up as broadcast             |
| <b>AC</b> | <b>INERR</b>   | Trying to add a BBL leg to a conference set up as SYM                 |

| cc | st    | Explanation                                                                  |
|----|-------|------------------------------------------------------------------------------|
| B0 | INERR | Bad use of INCL, cannot override the current state of the conference         |
| B1 | INERR | Bad use of INCL, cannot use keyword on conf.-to-conf. connection             |
| 1A | MCOND | Required FLI not equipped, not in service, or failed                         |
| 1B | MCOND | Required MXR not equipped, not in service, or failed                         |
| 1C | MCOND | Reqd FMT not eqd, not IS, or failed, or inactive side FMT not eqd, or not IS |
| 1D | MCOND | Required MIU not equipped, not in service, or failed                         |
| B5 | INERR | CPR circuit pack specified in the command                                    |
| D0 | SCERR | FROM NPC is not provisioned as DGA                                           |
| D1 | SCERR | TO NPC is not provisioned as DGA                                             |
| D6 | INERR | Invalid FROM channel number                                                  |
| D7 | INERR | Invalid TO channel number                                                    |
| D9 | INERR | Invalid FROM channel number range                                            |
| DA | INERR | Invalid TO channel number range                                              |
| DC | INERR | A loopback is active on the FROM termination                                 |
| DD | INERR | A loopback is active on the TO termination                                   |
| DF | INERR | Unmatched channel range                                                      |
| E0 | SCERR | Unmatched channel range involving SLC Mode III termination                   |
| E1 | INERR | A locally switched channel is specified as BBL, LEG, or BRD                  |
| E4 | SCERR | RT-DCLU cross-connect with different ids                                     |
| E5 | SCERR | RT-DCLU cross-connect with different channel number                          |
| E6 | SCERR | Cross-connect a non Mode I channel to DCLU                                   |
| E7 | SCERR | Cross-connect a non SLC channel to DCLU                                      |
| E8 | INERR | SC invalid for cross-connection specified                                    |
| E9 | INERR | MUX or TRB invalid for cross-connection specified                            |
| EA | INERR | AIS invalid for cross-connection specified                                   |
| EB | INERR | NAM invalid for cross-connection specified                                   |
| EC | INERR | Invalid channel 000 cross-connection specified                               |
| ED | INERR | Invalid channel 031 cross-connection specified                               |
| FF | ROLL  | Termination is in process of being rolled                                    |

| st     | d       | Explanation                                |
|--------|---------|--------------------------------------------|
| ASGN   | {F T B} | Termination assigned                       |
| CUS    | {F T B} | Customer-controlled Circuit                |
| FAIL   | {F T B} | Failed                                     |
| NOCHAN | {F T B} | Conference has no more channels to connect |
| NOCUS  | {F T B} | Conference not CUS                         |
| NORDC  | {F T B} | Conference not RDC                         |
| OOS    | {F T B} | Out-of-service                             |
| RDC    | {F T B} | Red Circuit                                |
| TG     | {F T B} |                                            |
| TP     | {F T B} | NPC is used for test access                |



| st   | d       | Explanation |
|------|---------|-------------|
| UEQD | {F T B} | Unequipped  |
| UTST | {F T B} | Under Test  |

## **TCNT, FROM, TO, RDC, CUS, INCL, PRIOUT**

### **TERMINATED TWO-WAY CROSS CONNECT**

#### **Explanation Of Command**

This message terminates two-way cross connections of non-channelized network processing circuits. The alarm-indication signal (AIS) is the idle code and does not need to be entered. Trunk condition options for 64 kbit/s cross connection are not allowed for non-channelized connections.

When a failure occurs or during an alarm state, the AIS is transmitted toward the TO NPC.

#### **Command**

##### **Nonhierarchical**

[I.12031]

TCNT:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC][,{CUS|INCL}][,PRIOUT]!

##### **Hierarchical**

[I.12031]

TCNT:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][,{CUS|INCL}][,PRIOUT]!

#### **Completion Message**

##### **Nonhierarchical**

[O.12031]

M hh:mm:ss xy,ww n[vv] TCNT [s]abc,[t]ghi[ RDC][ CUS][ PRIOUT] COMPL

### **Hierarchical**

---

[O.12031]

M hh:mm:ss xy,ww n[vv] TCNT uvmnp,wxkqr[ RDC][ CUS][ PRIOUT] COMPL

### **Denial Message**

---

### **Nonhierarchical**

---

[O.12031.01]

M hh:mm:ss xy,ww n[vv] TCNT [s]abc,[t]ghi cc <st> DNY

[O.12031.02]

M hh:mm:ss xy,ww n[vv] TCNT [s]abc,[t]ghi d <st> DNY

### **Hierarchical**

---

[O.12031.01]

M hh:mm:ss xy,ww n[vv] TCNT uvmnp,wxkqr cc <st> DNY

[O.12031.02]

M hh:mm:ss xy,ww n[vv] TCNT uvmnp,wxkqr d <st> DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

[s]abc - The 3- or 4-digit non-hierarchical non-channelized FROM NPC number

[t]ghi - The 3- or 4-digit non-hierarchical non-channelized TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |
| <b>16A-16H</b>               | <b>32A-32H</b>               | <b>48A-48H</b>               | <b>64A-64H</b>               | <b>80A-80H</b>               | <b>96A-96H</b>               |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical non-channelized FROM NPC number

**wxkqr** - Hierarchical non-channelized TO NPC number

**uv, wx** - Unit number

**m, k** - Module number

**np, qr** - NPC number within the module

The valid values are listed below:

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**RDC** - Red circuit

**CUS** - Customer  
Customer-controlled circuit

**INCL** - Inclusive  
This option will remove CUS marking

**PRIOUT** - Priority Output  
This keyword is used on the command line to prioritize  
the output response.

**st** - Status of denial

**d** - Direction

|          |                      |
|----------|----------------------|
| <b>d</b> | <b>FIExplanation</b> |
|----------|----------------------|

|   |      |
|---|------|
| F | From |
|---|------|

|   |    |
|---|----|
| T | To |
|---|----|

|   |      |
|---|------|
| B | Both |
|---|------|

**cc** - Hexadecimal condition code

|           |           |                    |
|-----------|-----------|--------------------|
| <b>cc</b> | <b>st</b> | <i>Explanation</i> |
|-----------|-----------|--------------------|

|           |              |                                              |
|-----------|--------------|----------------------------------------------|
| <b>04</b> | <b>INERR</b> | No NPC's out of service and OOS keyword used |
|-----------|--------------|----------------------------------------------|

|           |              |                                                            |
|-----------|--------------|------------------------------------------------------------|
| <b>12</b> | <b>MCOND</b> | Active CCN side not IS or failed or pested or hardware OOS |
|-----------|--------------|------------------------------------------------------------|

|           |              |                                              |
|-----------|--------------|----------------------------------------------|
| <b>13</b> | <b>MCOND</b> | UNIT not equipped, not in service, or failed |
|-----------|--------------|----------------------------------------------|

|           |              |                                                                       |
|-----------|--------------|-----------------------------------------------------------------------|
| <b>14</b> | <b>MCOND</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS |
|-----------|--------------|-----------------------------------------------------------------------|

|           |              |                                              |
|-----------|--------------|----------------------------------------------|
| <b>15</b> | <b>MCOND</b> | FTMI not equipped, not in service, or failed |
|-----------|--------------|----------------------------------------------|

|           |              |                                                                     |
|-----------|--------------|---------------------------------------------------------------------|
| <b>16</b> | <b>MCOND</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS |
|-----------|--------------|---------------------------------------------------------------------|

|           |              |                                                                       |
|-----------|--------------|-----------------------------------------------------------------------|
| <b>17</b> | <b>MCOND</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS |
|-----------|--------------|-----------------------------------------------------------------------|

|           |              |                                                      |
|-----------|--------------|------------------------------------------------------|
| <b>1A</b> | <b>MCOND</b> | Required FLI not equipped, not in service, or failed |
|-----------|--------------|------------------------------------------------------|

|           |              |                                                      |
|-----------|--------------|------------------------------------------------------|
| <b>1B</b> | <b>MCOND</b> | Required MXR not equipped, not in service, or failed |
|-----------|--------------|------------------------------------------------------|

|           |              |                                                                           |
|-----------|--------------|---------------------------------------------------------------------------|
| <b>1C</b> | <b>MCOND</b> | Reqd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS |
|-----------|--------------|---------------------------------------------------------------------------|

|           |              |                                                      |
|-----------|--------------|------------------------------------------------------|
| <b>1D</b> | <b>MCOND</b> | Required MIU not equipped, not in service, or failed |
|-----------|--------------|------------------------------------------------------|

|           |             |                                           |
|-----------|-------------|-------------------------------------------|
| <b>FF</b> | <b>ROLL</b> | Termination is in process of being rolled |
|-----------|-------------|-------------------------------------------|

| <b>cc</b>    | <b>st</b>      | <i>Explanation</i>          |
|--------------|----------------|-----------------------------|
| <b>st</b>    | <b>d</b>       | <i>Explanation</i>          |
| <b>ASGN</b>  | <b>{F T B}</b> | Termination assigned        |
| <b>CUS</b>   | <b>{F T B}</b> | Customer-controlled Circuit |
| <b>FAIL</b>  | <b>{F T B}</b> | Failed                      |
| <b>INVLD</b> | <b>{F T B}</b> | Invalid NPC type            |
| <b>NPCTA</b> | <b>{F T B}</b> | NPC used for Test Access    |
| <b>OOS</b>   | <b>{F T B}</b> | Out-of-service              |
| <b>UEQD</b>  | <b>{F T B}</b> | Unequipped                  |
| <b>UTST</b>  | <b>{F T B}</b> | Under Test                  |

## TCON, FROM, TO, AIS, CUS, INCL, RDC, PRIOUT

### TWO-WAY CROSS-CONNECTION

#### Explanation Of Command

This command requests the two-point two-way connection of two specified cross-connect circuits or a range of cross-connected circuits.

#### Command

##### Nonhierarchical

[I.11001]

```
TCON:[FRM xy,SEQ ww]:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\  
<tc>[,AIS][,{CUS|INCL}][,RDC][,PRIOUT]!
```

##### Hierarchical

[I.11001]

```
TCON:[FRM xy,SEQ ww]:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\  
<tc>[,AIS][,{CUS|INCL}][,RDC][,PRIOUT]!
```

#### Completion Message

##### Nonhierarchical

[O.11001]

```
M hh:mm:ss xy,ww n[vv] TCON [s]abcddd[-eee],[t]ghijjj[-kkk] \  
<tc>[ AIS][ CUS][ RDC][ PRIOUT] COMPL
```



[O.11002]

M hh:mm:ss xy,ww n[vv] TCON [s]abcddd[-eee],[t]ghijjj[-kkk] 2 LN MSG:  
<tc>[ AIS][ CUS][ RDC][ PRIOUT] COMPL

### **Hierarchical**

---

[O.11001]

M hh:mm:ss xy,ww n[vv] TCON uvmnpddd[-eee],wxkqrjjj[-kkk] \  
<tc>[ AIS][ CUS][ RDC][ PRIOUT] COMPL

[O.11002]

M hh:mm:ss xy,ww n[vv] TCON uvmnpddd[-eee],wxkqrjjj[-kkk] 2 LN MSG:  
<tc>[ AIS][ CUS][ RDC][ PRIOUT] COMPL

### **Denial Message**

---

### **Nonhierarchical**

---

[O.11001.01]

M hh:mm:ss xy,ww n[vv] TCON [s]abcddd[-eee],[t]ghijjj[-kkk]\  
[ mmm,nnn] cc <st> DNY

[O.11001.02]

M hh:mm:ss xy,ww n[vv] TCON [s]abcddd[-eee],[t]ghijjj[-kkk]\  
[ mmm,nnn] d <st> DNY

### **Hierarchical**

---

[O.11001.01]

M hh:mm:ss xy,ww n[vv] TCON uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ mmm,nnn] cc <st> DNY

[O.11001.02]

M hh:mm:ss xy,ww n[vv] TCON uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ mmm,nnn] d <st> DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**FROM** - From

**[s]abcd**

- Nonhierarchical termination in from direction

**[s]abc** - The 3- or 4-digit NPC number  
**ddd** - Channel number, beginning of range

**TO** - To

**[s]ghij**

- Nonhierarchical termination in to direction

**[s]ghi** - The 3- or 4-digit NPC number  
**jjj** - Channel number, beginning of range

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |

| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnpddd**

- Hierarchical termination in from direction

**wxkqrjjj**

- Hierarchical termination in to direction

**uv, wx** - Unit number

**m, k** - Module number

**np, qr** - NPC number within the module

**ddd, jjj**

- Channel number, beginning of range

The values are listed below:

DE, DS, and DA type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

If the channel being connected is an FDL (Facility Data Link), then **ddd**

(**jjj**) is **000** and signaling type should be of type **TC(ijkl, mnop)**.

Only the FDL of DE type NPC with ESF Format can be cross-connected.

**eee, kkk**

- Channel numbers for end of channel range

To connect a range of channels, use the optional fields **eee** and **kkk**.

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**tc** - Trunk conditioning

Defines the cross-connected insertion word and signaling applied to the circuit during a failure condition. The insertion word and signaling are separately specified, using a comma as the delimiter.

Valid values for two-way cross-connects are:

|                              |                                      |
|------------------------------|--------------------------------------|
| <i>4-state signaling</i>     | <i>16-state signaling</i>            |
| <b>TC(ijkl,mnop),TRB</b>     | <b>TC(efghijkl,mnopqrst),TRB</b>     |
| <b>TC(ijkl,mnop),IW X'nn</b> | <b>TC(X'uv,X'yz),TRB</b>             |
|                              | <b>TC(efghijkl,mnopqrst),IW X'nn</b> |
|                              | <b>TC(X'uv,X'yz),IW X'nn</b>         |

*Transparent signaling*

**TRSP,TRB**  
**TRSP,IW X'nn**  
**TRSP,MUX**  
**TRSP**

**Note:** For ESF type framing, 4-state signaling will be expanded to 16-state by duplicating the bits.

**ijkl** - 4-state binary signaling value - From direction

**mnop** - 4-state binary signaling value - To direction

**efghijkl**

- 16-state binary signaling value - From direction

**mnopqrst**

- 16-state binary signaling value - To direction

**uv** - 16-state hexadecimal signaling value - From direction

**yz** - 16-state hexadecimal signaling value - To direction

**nn** - Hexadecimal Insertion Word

**TRB** - Trouble Code  
Equal to **nn** value of **E4**.

**MUX** - Multiplexer Out of Sync Code  
Equal to **nn** value of **1A**. This keyword can not be entered in combination with signaling trunk conditioning. Instead, it must always be accompanied by the **TRSP** keyword. The Multiplexer Out of Sync Code is only used for cross-connections of T1DM data circuits which do not use robbed bit signaling.

**TRSP** - Transparent  
No robbed bit signaling is performed.

**Note:** In a gateway application, when E1 channels are connected to T1 channels, the following rules apply to the transmittal of the Insertion Word (IW) towards the facility. If the Insertion Word needs to be transmitted towards the facility as a result of consequent action, then the Insertion Word transmitted by the T1 NPC towards its transmission facility is the Insertion Word specified in this command; however, the Insertion Word transmitted by the E1 NPC towards its facility is always X'FF.

**AIS** - Alarm indication signal

This optional keyword is used to cause the all ones signal to be inserted on the downstream digroup when detected on the incoming digroup or when the incoming digroup exhibits a CGA (Carrier Group Alarm).

**CUS** - Customer

This optional keyword is used to flag a circuit as a customer controlled circuit. On output it indicates that the circuit is customer controlled.

**RDC** - Red circuit

This optional keyword is used to mark a circuit as a Red Circuit. On output it indicates that the circuit is a Red Circuit.

**INCL** - Inclusive

A termination designated as a customer controlled circuit or a red circuit cannot be disconnected or modified without using this keyword in the message. Also, an NPC which supports these circuits cannot be manually removed unless this keyword is given in the remove command.

**PRIOUT** - Priority Output

This keyword is used on the command line to prioritize the output response.

**mmm** - The From-direction channel number involved in denial (**ddd** through **eee**).

**nnn** - The To-direction channel number involved in denial (**jjj** through **kkk**).

**d** - Direction

**d** *Explanation*

**F** FROM

**T** TO

**B** Both

**st** - Status

**cc** - Hexadecimal condition code

**cc** **st** *Explanation*

|           |              |                                                                           |
|-----------|--------------|---------------------------------------------------------------------------|
| <b>06</b> | <b>INERR</b> | Invalid range for specified FROM NPC type                                 |
| <b>07</b> | <b>INERR</b> | Invalid range for specified TO NPC type                                   |
| <b>08</b> | <b>INERR</b> | Invalid FROM NPC type for AIS insertion                                   |
| <b>09</b> | <b>INERR</b> | Invalid TO NPC type for AIS insertion                                     |
| <b>12</b> | <b>MCOND</b> | Active CCN side not IS or failed or pested or hardware OOS                |
| <b>13</b> | <b>MCOND</b> | UNIT not equipped, not in service, or failed                              |
| <b>14</b> | <b>MCOND</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS     |
| <b>15</b> | <b>MCOND</b> | FTMI not equipped, not in service, or failed                              |
| <b>16</b> | <b>MCOND</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS       |
| <b>17</b> | <b>MCOND</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS     |
| <b>20</b> | <b>MCOND</b> | Line format types are incompatible                                        |
| <b>21</b> | <b>MCOND</b> | Trunk conditioning is invalid                                             |
| <b>22</b> | <b>MCOND</b> | FMC cannot be cross-connected in this format                              |
| <b>1A</b> | <b>MCOND</b> | Required FLI not equipped, not in service, or failed                      |
| <b>1B</b> | <b>MCOND</b> | Required MXR not equipped, not in service, or failed                      |
| <b>1C</b> | <b>MCOND</b> | Reqd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS |
| <b>1D</b> | <b>MCOND</b> | Required MIU not equipped, not in service, or failed                      |
| <b>D0</b> | <b>SCERR</b> | FROM NPC is not provisioned as DGA                                        |
| <b>D1</b> | <b>SCERR</b> | TO NPC is not provisioned as DGA                                          |
| <b>D6</b> | <b>INERR</b> | Invalid FROM channel number                                               |
| <b>D7</b> | <b>INERR</b> | Invalid TO channel number                                                 |
| <b>D9</b> | <b>INERR</b> | Invalid FROM channel number range                                         |
| <b>DA</b> | <b>INERR</b> | Invalid TO channel number range                                           |
| <b>DC</b> | <b>INERR</b> | A loopback is active on the FROM termination                              |
| <b>DD</b> | <b>INERR</b> | A loopback is active on the TO termination                                |
| <b>DF</b> | <b>INERR</b> | Unmatched channel range                                                   |
| <b>E0</b> | <b>SCERR</b> | Unmatched channel range involving SLC Mode III termination                |
| <b>E4</b> | <b>SCERR</b> | RT-DCLU cross-connect with different ids                                  |
| <b>E5</b> | <b>SCERR</b> | RT-DCLU cross-connect with different channel number                       |
| <b>E6</b> | <b>SCERR</b> | Cross-connect a non Mode I channel to DCLU                                |
| <b>E7</b> | <b>SCERR</b> | Cross-connect a non SLC channel to DCLU                                   |

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                 |
|-----------|--------------|----------------------------------------------------|
| <b>E8</b> | <b>INERR</b> | SC invalid for cross-connection specified          |
| <b>E9</b> | <b>INERR</b> | MUX or TRB invalid for cross-connection specified  |
| <b>EA</b> | <b>INERR</b> | AIS invalid for cross-connection specified         |
| <b>EB</b> | <b>INERR</b> | NAM invalid for cross-connection specified         |
| <b>EC</b> | <b>INERR</b> | Invalid channel 000 cross-connection specified     |
| <b>ED</b> | <b>INERR</b> | Invalid channel 031 cross-connection specified     |
| <b>EE</b> | <b>INERR</b> | Trunk type is not allowed in the circuit specified |
| <b>40</b> | <b>MCOND</b> | Not enough DSPPs are equipped                      |
| <b>41</b> | <b>MCOND</b> | Not enough DSPPs are in service                    |
| <b>85</b> | <b>INERR</b> | Using the 24th channel of a T1DM NPC               |
| <b>FF</b> | <b>ROLL</b>  | Termination is in process of being rolled          |
| <b>E0</b> | <b>MCOND</b> | ETSI not equipped, not in service, or failed       |

| <b>st</b>   | <b>d</b>       | <i>Explanation</i>            |
|-------------|----------------|-------------------------------|
| <b>ASGN</b> | <b>{F T B}</b> | Termination assigned          |
| <b>CUS</b>  | <b>{F T B}</b> | Customer-controlled Circuit   |
| <b>FAIL</b> | <b>{F T B}</b> | Failed                        |
| <b>OOS</b>  | <b>{F T B}</b> | Out-of-service                |
| <b>RDC</b>  | <b>{F T B}</b> | Red Circuit                   |
| <b>ROLL</b> | <b>{F T B}</b> | Circuit is involved in a roll |
| <b>TG</b>   | <b>{F T B}</b> | NPC is grown as a test group  |
| <b>TP</b>   | <b>{F T B}</b> | NPC is used for test access   |
| <b>UEQD</b> | <b>{F T B}</b> | Unequipped                    |
| <b>UTST</b> | <b>{F T B}</b> | Under Test                    |



## **TCON, FROM, TO, MPM, NTR, RDC, CUS, INCL**

### **TWO-WAY CROSS-CONNECT FROM, TO MULTIPOINT MODE**

#### **Explanation Of Command**

This message requests a multipoint two-way cross-connection between the specified FROM and TO end terminations and is used to connect a DS0 leg to a multipoint circuit, or to cross-connect a leg, consisting of a single or a contiguous range of DS0 channels, to a multipoint circuit in the virtual network processing circuit. Cross-connections may be between various network processing circuit types.

#### **Command**

##### **Nonhierarchical**

[I.11021]

```
TCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\  
MPM(fmd,tmd),<tc>,[NTR m][,RDC][,{CUS|INCL}]!
```

##### **Hierarchical**

[I.11021]

```
TCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\  
MPM(fmd,tmd),<tc>,[NTR m][,RDC][,{CUS|INCL}]!
```

## **Completion Message**

---

### **Nonhierarchical**

---

[O.11021]

M hh:mm:ss xy,ww n[vv] TCON [s]abcddd[-eee],[t]ghijjj[-kkk] \\  
2 LN MSG:  
fmd,tmd <tc>[ NTR m][ NOBBL {F|T}][ {CUS|INCL}][ RDC] COMPL

### **Hierarchical**

---

[O.11021]

M hh:mm:ss xy,ww n[vv] TCON uvmnpddd[-eee],wxkqrjjj[-kkk] \\  
2 LN MSG:  
fmd,tmd <tc>[ NTR m][ NOBBL {F|T}][ {CUS|INCL}][ RDC] COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.11021.01]

M hh:mm:ss xy,ww n[vv] TCON [s]abcddd[-eee],[t]ghijjj[-kkk] \\  
[ mmm,nnn] cc <st> DNY

[O.11021.02]

M hh:mm:ss xy,ww n[vv] TCON [s]abcddd[-eee],[t]ghijjj[-kkk] \\  
[ mmm,nnn] d <st> DNY

### **Hierarchical**

---

[O.11021.01]

M hh:mm:ss xy,ww n[vv] TCON uvmnpddd[-eee],wxkqrjjj[-kkk] \\  
[ mmm,nnn] cc <st> DNY

[O.11021.02]

M hh:mm:ss xy,ww n[vv] TCON uvmnpddd[-eee],wxkqrjjj[-kkk] \\  
[ mmm,nnn] d <st> DNY

### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number  
**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-002</b> | <b>161-162</b> | <b>321-322</b> | <b>481-482</b> | <b>641-642</b> | <b>801-802</b> |
| <b>021-022</b> | <b>181-182</b> | <b>341-342</b> | <b>501-502</b> | <b>661-662</b> | <b>821-822</b> |
| <b>041-042</b> | <b>201-202</b> | <b>361-362</b> | <b>521-522</b> | <b>681-682</b> | <b>841-842</b> |
| <b>061-062</b> | <b>221-222</b> | <b>381-382</b> | <b>541-542</b> | <b>701-702</b> | <b>861-862</b> |
| <b>081-082</b> | <b>241-242</b> | <b>401-402</b> | <b>561-562</b> | <b>721-722</b> | <b>881-882</b> |
| <b>101-102</b> | <b>261-262</b> | <b>421-422</b> | <b>581-582</b> | <b>741-742</b> | <b>901-902</b> |
| <b>121-122</b> | <b>281-282</b> | <b>441-442</b> | <b>601-602</b> | <b>761-762</b> | <b>921-922</b> |
| <b>141-142</b> | <b>301-302</b> | <b>461-462</b> | <b>621-622</b> | <b>781-782</b> | <b>941-942</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0002</b> | <b>0161-0162</b> | <b>0321-0322</b> | <b>0481-0482</b> |
| <b>0021-0022</b> | <b>0181-0182</b> | <b>0341-0342</b> | <b>0501-0502</b> |
| <b>0041-0042</b> | <b>0201-0202</b> | <b>0361-0362</b> | <b>0521-0522</b> |
| <b>0061-0062</b> | <b>0221-0222</b> | <b>0381-0382</b> | <b>0541-0542</b> |
| <b>0081-0082</b> | <b>0241-0242</b> | <b>0401-0402</b> | <b>0561-0562</b> |
| <b>0101-0102</b> | <b>0261-0262</b> | <b>0421-0422</b> | <b>0581-0582</b> |
| <b>0121-0122</b> | <b>0281-0282</b> | <b>0441-0442</b> | <b>0601-0602</b> |
| <b>0141-0142</b> | <b>0301-0302</b> | <b>0461-0462</b> | <b>0621-0622</b> |

| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0642</b> | <b>0801-0802</b> | <b>0961-0962</b> | <b>1121-1122</b> |
| <b>0661-0662</b> | <b>0821-0822</b> | <b>0981-0982</b> | <b>1141-1142</b> |
| <b>0681-0682</b> | <b>0841-0842</b> | <b>1001-1002</b> | <b>1161-1161</b> |
| <b>0701-0702</b> | <b>0861-0862</b> | <b>1021-1022</b> | <b>1181-1182</b> |
| <b>0721-0722</b> | <b>0881-0882</b> | <b>1041-1042</b> | <b>1201-1202</b> |
| <b>0741-0742</b> | <b>0901-0902</b> | <b>1061-1062</b> | <b>1221-1222</b> |
| <b>0761-0762</b> | <b>0921-0922</b> | <b>1081-1082</b> | <b>1241-1242</b> |
| <b>0781-0782</b> | <b>0941-0942</b> | <b>1101-1102</b> | <b>1261-1262</b> |

| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1282</b> | <b>1441-1442</b> | <b>1601-1602</b> | <b>1761-1762</b> |
| <b>1301-1302</b> | <b>1461-1462</b> | <b>1621-1622</b> | <b>1781-1782</b> |
| <b>1321-1322</b> | <b>1481-1482</b> | <b>1641-1642</b> | <b>1801-1802</b> |
| <b>1341-1342</b> | <b>1501-1502</b> | <b>1661-1662</b> | <b>1821-1822</b> |
| <b>1361-1362</b> | <b>1521-1522</b> | <b>1681-1682</b> | <b>1841-1842</b> |
| <b>1381-1382</b> | <b>1541-1542</b> | <b>1701-1702</b> | <b>1861-1862</b> |
| <b>1401-1402</b> | <b>1561-1562</b> | <b>1721-1722</b> | <b>1881-1882</b> |
| <b>1421-1422</b> | <b>1581-1582</b> | <b>1741-1742</b> | <b>1901-1902</b> |
| <br>             |                  |                  |                  |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-1922</b> | <b>2081-2082</b> | <b>2241-2242</b> | <b>2401-2402</b> |
| <b>1941-1942</b> | <b>2101-2102</b> | <b>2261-2262</b> | <b>2421-2422</b> |
| <b>1961-1962</b> | <b>2121-2122</b> | <b>2281-2282</b> | <b>2441-2442</b> |
| <b>1981-1982</b> | <b>2141-2142</b> | <b>2301-2302</b> | <b>2461-2462</b> |
| <b>2001-2002</b> | <b>2161-2162</b> | <b>2321-2322</b> | <b>2481-2482</b> |
| <b>2021-2022</b> | <b>2181-2182</b> | <b>2341-2342</b> | <b>2501-2502</b> |
| <b>2041-2042</b> | <b>2201-2202</b> | <b>2361-2362</b> | <b>2521-2522</b> |
| <b>2061-2062</b> | <b>2221-2222</b> | <b>2381-2382</b> | <b>2541-2542</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

DACS II Non-CEF frames support two virtual NPCs using the three digit NPC numbering scheme. The valid values for Non-CEF frames are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit  
-

**NPC**  
**961-962**

DACS II CEF frames support six virtual NPCs using either a three digit or four digit NPC numbering scheme. If NPC numbers are expressed in three digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit  
-

**NPC**  
**961-966**

If NPC numbers are expressed in four digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**9961-9966**

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**uv, wx** - Unit number

**m, k** - Module number

**np, qr** - NPC number within the module

The values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

MB type NPC numbers listed by unit, module, and NPC Number

Unit Type DP (DSPU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-8</b> | <b>01-02</b> |

TE NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

VI NPC numbers listed by unit, module, and NPC Number

Unit Type VI (Virtual)

|           |          |              |                                 |
|-----------|----------|--------------|---------------------------------|
| Unit      | Module   | NPC          |                                 |
| <b>99</b> | <b>1</b> | <b>01-02</b> | <b>(DACS II Non-CEF frames)</b> |
| <b>99</b> | <b>1</b> | <b>01-06</b> | <b>(DACS II CEF frames)</b>     |

**ddd,**

**jjj** - Channel or conference numbers

**eee,**

**kkk** - Channel or conference numbers denoting the end of range specification

Channel numbers

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

Conference numbers

001-085 (MB NPC)

001-500 (Virtual NPC)

Cross-connections may be between various Network Processing Circuit (NPC) types:

Facility Terminating Unit (FTU)/IFTU/DS3U NPC and DMB  
DMB and DMB  
FTU/IFTU/DS3U NPC and Virtual NPC

Range values -eee and -kkk apply only to the FTU/IFTU/DS3U end of an FTU/IFTU/DS3U-Virtual NPC circuit; i.e., cannot apply to the Virtual NPC end. No range values can apply to either end of an FTU/IFTU/DS3U NPC-DMB or DMB-DMB circuit. Note also that the range of allowable NPC numbers is dependent on the equipage of the frame.

**MPM** - Multipoint mode

**fmd** - FROM mode

**tmd** - TO mode

Multipoint modes of the FROM and TO ends of the circuit



For DMB circuits, there are four possible values for fmd and tmd:

**fmd**

**tmd**

- |     |                                                                                             |
|-----|---------------------------------------------------------------------------------------------|
| SYM | For legs of a symmetrical multipoint circuit (must be a DMB channel)                        |
| BRD | For nonbackbone (tributary) legs of a broadcast multipoint circuit (must be a DMB channel)  |
| BBL | For the backbone leg of a broadcast multipoint circuit (must be a DMB channel)              |
| LEG | For the end that does not terminate on the multipoint circuit (must be an FTU/DS3U channel) |

For virtual NPC circuits, there are three possible values for fmd and tmd:

**fmd**

**tmd**

- |     |                                                                                           |
|-----|-------------------------------------------------------------------------------------------|
| BRD | For nonbackbone legs of a broadcast multipoint circuit (must be a virtual NPC channel)    |
| BBL | For the backbone leg of a broadcast multipoint circuit (must be a virtual NPC channel)    |
| LEG | For the end that does not terminate on the multipoint circuit (must be FTU/DS3U channels) |

The valid combinations of fmd and tmd are:

For within a DMB or virtual conference:

LEG,BBL or BBL,LEG  
LEG,BRD or BRD,LEG  
SYM,LEG or LEG,SYM (only for DMB)

For concatenation of conferences:

BRD,BBL or BBL,BRD  
BBL,BBL  
SYM,SYM

**Note:** Default values for noise guard (NG) and echo suppression (ES) are applied to symmetrical bridges (multipoint mode SYM) and polling circuits (multipoint mode BBL,BRD). These default values are:

|                     |            |            |
|---------------------|------------|------------|
| Symmetrical bridges | NG = -18db | ES = -18db |
| Polling circuits    | NG = 0db   | ES = 0db   |

**Note:** To avoid possible transmission delays in the conferencers, DACS II will not allow DMB broadcast conferences to be concatenated more than six deep. However, each concatenated conference will support the maximum allowable number of legs. This allows conferences to branch out at any point in the daisy chain, as long as each branch does not concatenate more than six conferences from the backbone leg.

**tc** - Trunk conditioning

Represents the desired cross-connected signaling and insertion word applied when a failure occurs. A trunk conditioning specification consists of a combination of a signaling specification followed by an insertion word specification. For example, TRSP,IW X'pq (input form).

The following signaling options are allowed:

| <i>signaling</i> | <i>Explanation</i>        |
|------------------|---------------------------|
| TRSP             | Transparent, no signaling |

The following insertion word options are allowed:

| <i>insertion word</i> | <i>Explanation</i>                                                                                                                                                               |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IW X'pq               | pq is a user specified insertion word. The binary pattern corresponding to the hexadecimal value of pq will be inserted in the downstream direction of a failure on either line. |
| TRB                   | Standard trouble code, equal to IW X'E4                                                                                                                                          |

All leg connections to multipoint circuits using a DMB NPC or a Virtual NPC must use TRSP signaling. The insertion word is user specified and may be varied from leg to leg.

For all multipoint to multipoint conference cross-connections (DMB concatenated conferences) only TRSP signaling is allowed and is the default hence it need not be specified. The insertion word is not valid for concatenated conferences.

**Note:** In a gateway application, when E1 channels are connected to T1 channels, the following rules apply to the transmittal of the Insertion Word (IW) towards the facility. If the Insertion Word needs to be transmitted towards the facility as a result of consequent action, then the Insertion Word transmitted by the T1 NPC towards its transmission facility is the Insertion Word specified in this command; however, the Insertion Word transmitted by the E1 NPC towards its facility is always X'FF.

**NTR** - No Transmit

**m** - The direction toward which transmission is shut off

*m Explanation*

F FROM

T TO

The NTR option is used to set up one-way connections; that is, to shut off transmission towards the specified FROM or TO termination.

If NTR m is specified on the BBL (backbone leg) of a multipoint circuit, then the BRD (broadcast) legs of this circuit have their outward transmission turned off.

The NTR field is optional if the virtual NPC is part of the circuit.

The direction of the data flow is indicated by the MPM (fmd,tmd) field.

**CUS** - Customer

All legs on a multipoint customer controlled circuit must be designated as CUS. A disconnected termination previously marked CUS remains as a customer controlled termination.

**INCL** - Inclusive

The INCL keyword must be used to reconnect a termination to other terminations. However, if they are reconnected without the CUS keyword, they lose their customer controlled status.

**NAM** - No A-law to  $\mu$ -law

The A-law to  $\mu$ -law and  $\mu$ -law to A-law code translators on the E1 type NPC are disabled. This keyword is valid in the following types of cross-connects:

*Multi-Point:*

E1 to E1 Multi-point cross-connects have A-law to  $\mu$ -law and  $\mu$ -law to A-law set as a default. This conversion is performed on pure E1 multi-point connections in case a DS1 leg is ever added to the broadcast connection. The **NAM** keyword is used to disable the conversions. It may be desirable to disable conversions in a pure E1 multi-point cross-connect since such a connection has more quantization noise than a pure E1 two-point cross-connect. This is due to the back to back A-law to  $\mu$ -law and  $\mu$ -law to A-law conversions which are taking place.

E1 to DS1 or  
DS1 to E1 Same explanation as E1 to E1.

DS1 to DS1 Not applicable.

**RDC** - Red circuit

If the optional RDC field is present, the circuit will be flagged as a Red Circuit. All legs on a multipoint red circuit must be designated RDC.

**NOBBL** - No backbone leg

If the type of circuit was a broadcast circuit, the optional NOBBL indicates that no backbone leg is yet specified in either the FROM or TO direction. This argument will appear until a backbone leg is specified for this circuit.

**F** - From

**T** - To

**mmm** - FROM channel number involved in the denial (ddd through eee)

**nnn** - TO channel number involved in the denial (jjj through kkk)

**st** - Status

**d** - Direction

*d*      *Explanation*

F      FROM

T      TO

B      BOTH

**cc** - Hexadecimal condition code

**cc**    **st**      *Explanation*

**06**    **INERR**    Invalid range for specified FROM NPC type

**07**    **INERR**    Invalid range for specified TO NPC type

**08**    **INERR**    Invalid FROM NPC type for AIS insertion

**09**    **INERR**    Invalid TO NPC type for AIS insertion

**12**    **MCOND**    Active CCN side not IS or failed or pested or hardware OOS

**13**    **MCOND**    UNIT not equipped, not in service, or failed

**14**    **MCOND**    CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS

**15**    **MCOND**    FTMI not equipped, not in service, or failed

**16**    **MCOND**    FC not eqd, not IS, or failed or inactive side FC not eqd or not IS

**17**    **MCOND**    TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS

**18**    **MCOND**    DSPI not equipped, not in service, or failed

**20**    **MCOND**    Line format types are incompatible

**21**    **MCOND**    Trunk conditioning is invalid

**22**    **MCOND**    FMC cannot be cross-connected in this format

| <b>cc</b> | <b>st</b>      | <i>Explanation</i>                                                        |
|-----------|----------------|---------------------------------------------------------------------------|
| <b>37</b> | <b>INERR</b>   | Two confs. were prev. connected or the concat. cause BRD-BBL loop         |
| <b>50</b> | <b>INERR</b>   | Trunk conditioning doesn't match that of conference                       |
| <b>51</b> | <b>INERR</b>   | CUS flag doesn't match that of conference                                 |
| <b>52</b> | <b>INERR</b>   | RDC flag doesn't match that of conference                                 |
| <b>70</b> | <b>CONFERR</b> | Try to add a BBL to VC, but the VC already has backbone                   |
| <b>78</b> | <b>CONFERR</b> | Try to operate a ONE-WAY conference with a TWO-WAY input command          |
| <b>80</b> | <b>CONFERR</b> | Database conference width does not match the range in input command       |
| <b>84</b> | <b>CONFERR</b> | Trying to add or delete a leg when a conference is under test             |
| <b>85</b> | <b>CONFERR</b> | Input BRD (BBL) has same NPC and channel as BBL (BRD)                     |
| <b>A1</b> | <b>INERR</b>   | Illegal BBL BBL combination                                               |
| <b>A2</b> | <b>INERR</b>   | Illegal BRD BRD combination                                               |
| <b>A3</b> | <b>INERR</b>   | Illegal SYM BRD combination                                               |
| <b>A4</b> | <b>INERR</b>   | Illegal BRD SYM combination                                               |
| <b>A5</b> | <b>INERR</b>   | Illegal BBL SYM combination                                               |
| <b>A6</b> | <b>INERR</b>   | Illegal SYM BBL combination                                               |
| <b>A7</b> | <b>INERR</b>   | LEG mode was assigned to a DSPU-type NPC on the input                     |
| <b>A8</b> | <b>INERR</b>   | A DMB mode was assigned to a FTU-type NPC on the input                    |
| <b>A9</b> | <b>INERR</b>   | Trying to add a BBL to a DMB conference that already has one              |
| <b>AA</b> | <b>INERR</b>   | Trying to add a broadcast leg to a conference set up as SYM               |
| <b>AB</b> | <b>INERR</b>   | Trying to add a SYM leg to conference set up as broadcast                 |
| <b>AC</b> | <b>INERR</b>   | Trying to add a BBL leg to a conference set up as SYM                     |
| <b>B0</b> | <b>INERR</b>   | Bad use of INCL, cannot override the current state of the conference      |
| <b>B1</b> | <b>INERR</b>   | Bad use of INCL, cannot use keyword on conf.-to-conf. connection          |
| <b>C8</b> | <b>INERR</b>   | Exceeded depth limit of 6 on broadcast conference concatenation           |
| <b>1A</b> | <b>MCOND</b>   | Required FLI not equipped, not in service, or failed                      |
| <b>1B</b> | <b>MCOND</b>   | Required MXR not equipped, not in service, or failed                      |
| <b>1C</b> | <b>MCOND</b>   | Reqd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS |
| <b>1D</b> | <b>MCOND</b>   | Required MIU not equipped, not in service, or failed                      |
| <b>AE</b> | <b>INERR</b>   | A substrate circuit pack is specified in the command line                 |
| <b>B5</b> | <b>INERR</b>   | CPR circuit pack specified in the command                                 |
| <b>D0</b> | <b>SCERR</b>   | FROM NPC is not provisioned as DGA                                        |
| <b>D1</b> | <b>SCERR</b>   | TO NPC is not provisioned as DGA                                          |
| <b>D6</b> | <b>INERR</b>   | Invalid FROM channel number                                               |
| <b>D7</b> | <b>INERR</b>   | Invalid TO channel number                                                 |
| <b>D9</b> | <b>INERR</b>   | Invalid FROM channel number range                                         |
| <b>DA</b> | <b>INERR</b>   | Invalid TO channel number range                                           |

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                          |
|-----------|--------------|-------------------------------------------------------------|
| <b>DC</b> | <b>INERR</b> | A loopback is active on the FROM termination                |
| <b>DD</b> | <b>INERR</b> | A loopback is active on the TO termination                  |
| <b>DF</b> | <b>INERR</b> | Unmatched channel range                                     |
| <b>E0</b> | <b>SCERR</b> | Unmatched channel range involving SLC Mode III termination  |
| <b>E1</b> | <b>INERR</b> | A locally switched channel is specified as BBL, LEG, or BRD |
| <b>E4</b> | <b>SCERR</b> | RT-DCLU cross-connect with different ids                    |
| <b>E5</b> | <b>SCERR</b> | RT-DCLU cross-connect with different channel number         |
| <b>E6</b> | <b>SCERR</b> | Cross-connect a non Mode I channel to DCLU                  |
| <b>E7</b> | <b>SCERR</b> | Cross-connect a non SLC channel to DCLU                     |
| <b>E8</b> | <b>INERR</b> | SC invalid for cross-connection specified                   |
| <b>E9</b> | <b>INERR</b> | MUX or TRB invalid for cross-connection specified           |
| <b>EA</b> | <b>INERR</b> | AIS invalid for cross-connection specified                  |
| <b>EB</b> | <b>INERR</b> | NAM invalid for cross-connection specified                  |
| <b>EC</b> | <b>INERR</b> | Invalid channel 000 cross-connection specified              |
| <b>ED</b> | <b>INERR</b> | Invalid channel 031 cross-connection specified              |
| <b>FF</b> | <b>ROLL</b>  | Termination is in process of being rolled                   |

| <b>st</b>     | <b>d</b>       | <i>Explanation</i>                         |
|---------------|----------------|--------------------------------------------|
| <b>ASGN</b>   | <b>{F T B}</b> | Termination assigned                       |
| <b>CUS</b>    | <b>{F T B}</b> | Customer-controlled Circuit                |
| <b>FAIL</b>   | <b>{F T B}</b> | Failed                                     |
| <b>NOCHAN</b> | <b>{F T B}</b> | Conference has no more channels to connect |
| <b>NOCUS</b>  | <b>{F T B}</b> | Conference not CUS                         |
| <b>NORDC</b>  | <b>{F T B}</b> | Conference not RDC                         |
| <b>OOS</b>    | <b>{F T B}</b> | Out-of-service                             |
| <b>RDC</b>    | <b>{F T B}</b> | Red Circuit                                |
| <b>ROLL</b>   | <b>{F T B}</b> | Circuit is involved in a roll              |
| <b>TG</b>     | <b>{F T B}</b> |                                            |
| <b>TP</b>     | <b>{F T B}</b> | NPC is used for test access                |
| <b>UEQD</b>   | <b>{F T B}</b> | Unequipped                                 |
| <b>UTST</b>   | <b>{F T B}</b> | Under Test                                 |

## **TCON, FROM, TO, RDC, CUS, INCL, PRIOUT**

### **TWO-WAY NON-CANNELIZED DIGITAL SIGNAL CROSS CONNECTION**

#### **Explanation Of Command**

This message is used to form a two-way cross-connection between two non-channelized network processing circuits (NPCs). It is also used to form a terminated two-way cross-connection. The idle code is the alarm-indication signal (AIS, all ones) and does not need to be specified. The disconnect code (DCC) for 64 kbit/s disconnection cannot be used for non-channelized NPCs.

When a failure occurs or during an alarm state, the AIS is transmitted toward the TO NPC.

NPCs with customer-controlled marking retain the CUS status when disconnected. When the NPCs are reconnected without CUS or inclusive (INCL) keyword, the command will be denied. If the NPCs are reconnected with INCL keyword, they lose the CUS status.

Red circuit marking is removed when the circuit is disconnected.

#### **Command**

##### **Nonhierarchical**

[I.11011]

TCON:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC][,{CUS|INCL}][,PRIOUT]!

##### **Hierarchical**

[I.11011]

TCON:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][,{CUS|INCL}][,PRIOUT]!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.11011]

M hh:mm:ss xy,ww n[vv] TCON [s]abc,[t]ghi[ RDC][ CUS][ PRIOUT] COMPL

#### **Hierarchical**

---

[O.11011]

M hh:mm:ss xy,ww n[vv] TCON uvmnp,wxkqr[ RDC][ CUS][ PRIOUT] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.11011.01]

M hh:mm:ss xy,ww n[vv] TCON [s]abc,[t]ghi cc <st> DNY

[O.11011.02]

M hh:mm:ss xy,ww n[vv] TCON [s]abc,[t]ghi d <st> DNY

#### **Hierarchical**

---

[O.11011.01]

M hh:mm:ss xy,ww n[vv] TCON uvmnp,wxkqr cc <st> DNY

[O.11011.02]

M hh:mm:ss xy,ww n[vv] TCON uvmnp,wxkqr d <st> DNY

### **Autonomous Message**

---

Not applicable.



### Explanation Of Parameters

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number

**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**uv, wx** - Unit number  
**m, k** - Module number  
**np, qr** - NPC number within the module  
The values are listed below:

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**RDC** - Red circuit  
**CUS** - Customer

Indicates a customer-controlled Circuit

**INCL** - Inclusive

Inclusive option must be used to remove CUS marking

**PRIOUT** - Priority Output

This keyword is used on the command line to prioritize the output response.

**st** - Status of denial

**d** - Direction

| <b>d</b> | <i>Explanation</i> |
|----------|--------------------|
| F        | From               |
| T        | To                 |
| B        | Both               |

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                    |
|-----------|--------------|-----------------------------------------------------------------------|
| <b>04</b> | <b>INERR</b> | No NPC's out of service and OOS keyword used                          |
| <b>12</b> | <b>MCOND</b> | Active CCN side not IS or failed or pested or hardware OOS            |
| <b>13</b> | <b>MCOND</b> | UNIT not equipped, not in service, or failed                          |
| <b>14</b> | <b>MCOND</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS |
| <b>15</b> | <b>MCOND</b> | FTMI not equipped, not in service, or failed                          |

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                        |
|-----------|--------------|---------------------------------------------------------------------------|
| <b>16</b> | <b>MCOND</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS       |
| <b>17</b> | <b>MCOND</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS     |
| <b>1A</b> | <b>MCOND</b> | Required FLI not equipped, not in service, or failed                      |
| <b>1B</b> | <b>MCOND</b> | Required MXR not equipped, not in service, or failed                      |
| <b>1C</b> | <b>MCOND</b> | Reqd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS |
| <b>1D</b> | <b>MCOND</b> | Required MIU not equipped, not in service, or failed                      |
| <b>EC</b> | <b>INERR</b> | Invalid channel 000 cross-connection specified                            |
| <b>FF</b> | <b>ROLL</b>  | Termination is in process of being rolled                                 |

| <b>st</b>    | <b>d</b>       | <i>Explanation</i>            |
|--------------|----------------|-------------------------------|
| <b>ASGN</b>  | <b>{F T B}</b> | Termination assigned          |
| <b>CUS</b>   | <b>{F T B}</b> | Customer-controlled Circuit   |
| <b>FAIL</b>  | <b>{F T B}</b> | Failed                        |
| <b>INVLD</b> | <b>{F T B}</b> | Invalid NPC type              |
| <b>NPCTA</b> | <b>{F T B}</b> | NPC used for Test Access      |
| <b>OOS</b>   | <b>{F T B}</b> | Out-of-service                |
| <b>ROLL</b>  | <b>{F T B}</b> | Circuit is involved in a roll |
| <b>UEQD</b>  | <b>{F T B}</b> | Unequipped                    |
| <b>UTST</b>  | <b>{F T B}</b> | Under Test                    |

## **TDIS, FROM, TO, INCL, OOS, DCC**

### **TWO-WAY DISCONNECTIONS**

#### **Explanation Of Command**

This message requests a disconnection between the specified FROM and TO end terminations and is used to disconnect a leg or legs from a multipoint circuit.

Disconnections may be between various Network Processing Circuit (NPC) types:

Facility Terminating Unit (FTU)/DS3U NPC and Digital Signal Processing (DSPU) Unit NPC

FTU/DS3U NPC and Virtual NPC

DSPU NPC and DSPU NPC

#### **Command**

##### **Nonhierarchical**

[I.15002]

**TDIS:FRM xy,SEQ ww:FROM [s]abcddd,TO [t]ghijjj[,INCL][,OOS]\[,DCC]!**

##### **Hierarchical**

[I.15002]

**TDIS:FRM xy,SEQ ww:FROM uvmnpddd,TO wxkqrjjj[,INCL][,OOS]\[,DCC]!**

## **Completion Message**

---

### **Nonhierarchical**

---

[O.15002]

M hh:mm:ss xy,ww n[vv] TDIS [s]abcdddd,[t]ghijjj 2 LN MSG:  
[NOBBL {F|T}][ MPDIS {F|T|B}][ OOS][ CUS][ DDC][ RDC] COMPL

### **Hierarchical**

---

[O.15002]

M hh:mm:ss xy,ww n[vv] TDIS uvmnpddd,wxkqrjjj 2 LN MSG:  
[NOBBL {F|T}][ MPDIS {F|T|B}][ OOS][ CUS][ DDC][ RDC] COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.15001.01]

M hh:mm:ss xy,ww n[vv] TDIS [s]abcdddd[-eee],[t]ghijjj[-kkk]\  
[ mmm,nnn] cc <st> DNY

[O.15001.02]

M hh:mm:ss xy,ww n[vv] TDIS [s]abcdddd[-eee],[t]ghijjj[-kkk]\  
[ mmm,nnn] <d> <st> DNY

### **Hierarchical**

---

[O.15001.01]

M hh:mm:ss xy,ww n[vv] TDIS uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ mmm,nnn] cc <st> DNY

[O.15001.02]

M hh:mm:ss xy,ww n[vv] TDIS uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ mmm,nnn] <d> <st> DNY

### Autonomous Message

Not applicable.

### Explanation Of Parameters

**FROM** - From termination  
**TO** - To termination

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number  
**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-002</b> | <b>161-162</b> | <b>321-322</b> | <b>481-482</b> | <b>641-642</b> | <b>801-802</b> |
| <b>021-022</b> | <b>181-182</b> | <b>341-342</b> | <b>501-502</b> | <b>661-662</b> | <b>821-822</b> |
| <b>041-042</b> | <b>201-202</b> | <b>361-362</b> | <b>521-522</b> | <b>681-682</b> | <b>841-842</b> |
| <b>061-062</b> | <b>221-222</b> | <b>381-382</b> | <b>541-542</b> | <b>701-702</b> | <b>861-862</b> |
| <b>081-082</b> | <b>241-242</b> | <b>401-402</b> | <b>561-562</b> | <b>721-722</b> | <b>881-882</b> |
| <b>101-102</b> | <b>261-262</b> | <b>421-422</b> | <b>581-582</b> | <b>741-742</b> | <b>901-902</b> |
| <b>121-122</b> | <b>281-282</b> | <b>441-442</b> | <b>601-602</b> | <b>761-762</b> | <b>921-922</b> |
| <b>141-142</b> | <b>301-302</b> | <b>461-462</b> | <b>621-622</b> | <b>781-782</b> | <b>941-942</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0002</b> | <b>0161-0162</b> | <b>0321-0322</b> | <b>0481-0482</b> |
| <b>0021-0022</b> | <b>0181-0182</b> | <b>0341-0342</b> | <b>0501-0502</b> |
| <b>0041-0042</b> | <b>0201-0202</b> | <b>0361-0362</b> | <b>0521-0522</b> |
| <b>0061-0062</b> | <b>0221-0222</b> | <b>0381-0382</b> | <b>0541-0542</b> |
| <b>0081-0082</b> | <b>0241-0242</b> | <b>0401-0402</b> | <b>0561-0562</b> |
| <b>0101-0102</b> | <b>0261-0262</b> | <b>0421-0422</b> | <b>0581-0582</b> |
| <b>0121-0122</b> | <b>0281-0282</b> | <b>0441-0442</b> | <b>0601-0602</b> |
| <b>0141-0142</b> | <b>0301-0302</b> | <b>0461-0462</b> | <b>0621-0622</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0642</b> | <b>0801-0802</b> | <b>0961-0962</b> | <b>1121-1122</b> |
| <b>0661-0662</b> | <b>0821-0822</b> | <b>0981-0982</b> | <b>1141-1142</b> |
| <b>0681-0682</b> | <b>0841-0842</b> | <b>1001-1002</b> | <b>1161-1161</b> |
| <b>0701-0702</b> | <b>0861-0862</b> | <b>1021-1022</b> | <b>1181-1182</b> |
| <b>0721-0722</b> | <b>0881-0882</b> | <b>1041-1042</b> | <b>1201-1202</b> |
| <b>0741-0742</b> | <b>0901-0902</b> | <b>1061-1062</b> | <b>1221-1222</b> |
| <b>0761-0762</b> | <b>0921-0922</b> | <b>1081-1082</b> | <b>1241-1242</b> |
| <b>0781-0782</b> | <b>0941-0942</b> | <b>1101-1102</b> | <b>1261-1262</b> |



| Unit<br>9          | Unit<br>10         | Unit<br>11         | Unit<br>12         |
|--------------------|--------------------|--------------------|--------------------|
| <b>NPC</b>         | <b>NPC</b>         | <b>NPC</b>         | <b>NPC</b>         |
| <b>1281-1282</b>   | <b>1441-1442</b>   | <b>1601-1602</b>   | <b>1761-1762</b>   |
| <b>1301-1302</b>   | <b>1461-1462</b>   | <b>1621-1622</b>   | <b>1781-1782</b>   |
| <b>1321-1322</b>   | <b>1481-1482</b>   | <b>1641-1642</b>   | <b>1801-1802</b>   |
| <b>1341-1342</b>   | <b>1501-1502</b>   | <b>1661-1662</b>   | <b>1821-1822</b>   |
| <b>1361-1362</b>   | <b>1521-1522</b>   | <b>1681-1682</b>   | <b>1841-1842</b>   |
| <b>1381-1382</b>   | <b>1541-1542</b>   | <b>1701-1702</b>   | <b>1861-1862</b>   |
| <b>1401-1402</b>   | <b>1561-1562</b>   | <b>1721-1722</b>   | <b>1881-1882</b>   |
| <b>1421-1422</b>   | <b>1581-1582</b>   | <b>1741-1742</b>   | <b>1901-1902</b>   |
| <b>Unit<br/>13</b> | <b>Unit<br/>14</b> | <b>Unit<br/>15</b> | <b>Unit<br/>16</b> |
| <b>NPC</b>         | <b>NPC</b>         | <b>NPC</b>         | <b>NPC</b>         |
| <b>1921-1922</b>   | <b>2081-2082</b>   | <b>2241-2242</b>   | <b>2401-2402</b>   |
| <b>1941-1942</b>   | <b>2101-2102</b>   | <b>2261-2262</b>   | <b>2421-2422</b>   |
| <b>1961-1962</b>   | <b>2121-2122</b>   | <b>2281-2282</b>   | <b>2441-2442</b>   |
| <b>1981-1982</b>   | <b>2141-2142</b>   | <b>2301-2302</b>   | <b>2461-2462</b>   |
| <b>2001-2002</b>   | <b>2161-2162</b>   | <b>2321-2322</b>   | <b>2481-2482</b>   |
| <b>2021-2022</b>   | <b>2181-2182</b>   | <b>2341-2342</b>   | <b>2501-2502</b>   |
| <b>2041-2042</b>   | <b>2201-2202</b>   | <b>2361-2362</b>   | <b>2521-2522</b>   |
| <b>2061-2062</b>   | <b>2221-2222</b>   | <b>2381-2382</b>   | <b>2541-2542</b>   |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

DACS II Non-CEF frames support two virtual NPCs using the three digit NPC numbering scheme. The valid values for Non-CEF frames are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**  
**961-962**

DACS II CEF frames support six virtual NPCs using either a three digit or four digit NPC numbering scheme. If NPC numbers are expressed in three digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**  
**961-966**

If NPC numbers are expressed in four digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit  
-

**NPC**  
**9961-9966**

**uvmnp** - Hierarchical FROM NPC number for beginning of NPC range

**wxkqr** - Hierarchical TO NPC number for end of NPC range

**uv, wx** - Unit number  
**m, k** - Module number  
**np, qr** - NPC number within the module

The valid values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

MB type NPC numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-8</b> | <b>01-02</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

VI NPC numbers listed by unit, module, and NPC Number  
Unit Type VI (Virtual)

| Unit      | Module   | NPC          |                                 |
|-----------|----------|--------------|---------------------------------|
| <b>99</b> | <b>1</b> | <b>01-02</b> | <b>(DACS II Non-CEF frames)</b> |
| <b>99</b> | <b>1</b> | <b>01-06</b> | <b>(DACS II CEF frames)</b>     |

**Note:** The range of allowable NPC numbers is dependent on the equipage of the frame.

**ddd** - FROM channel or conference number

**jjj** - TO channel number or conference number

## Channel Numbers

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

## Conference Numbers

|         |               |
|---------|---------------|
| 001-085 | (MB NPC)      |
| 001-500 | (Virtual NPC) |

### **INCL** - Inclusive

To disconnect a channel or range of channels including one or more channels marked as a Red Circuit, use the INCL (inclusive) option. If this option is not used, the message will be denied if any circuits in the range are Red Circuits.

### **OOS** - Out-of-service

An Out-Of-Service disconnection may be done by giving the optional OOS keyword. At least one end of the circuit must be out-of-service or the OOS disconnection will be denied.

### **DCC** - Disconnect code

If DCC is specified, DACS II will insert the user-defined disconnect code and signaling into the disconnected channels. This disconnect code and signaling are specified by the trunk conditioning field of the TCON command that initially connected to the channels. If the DCC option is not used, the disconnect code specified in the GRTH NPC command will be used.

### **mmm, nnn**

- Channel numbers involved in the denial. Otherwise, the same as ddd.

### **CUS** - Customer

Indicates the circuit is a customer controlled Circuit.

**NOBBL** - No backbone leg

This optional field will appear if the multipoint circuit(s) FROM or TO is in the broadcast mode but has no backbone leg after the TDIS command.

**MPDIS** - Multipoint disconnect

Full disconnection of the multipoint circuits is indicated by MPDIS for FROM, TO, or BOTH.

**RDC** - Red circuit

RDC indicates that the disconnection was performed on a Red Circuit. This implies that the INCL keyword was given in the input message. If the disconnection was given on more than one circuit, then at least one of them was a Red Circuit.

**d** - Direction

*d Explanation*

**F** - From

**T** - To

**B** - Both

**st** - Status of denial

17 Required ETSI not equipped, not in service, or failed or inactive side ETSI not equipped or not in service

**cc** - Hexadecimal condition code

*cc st Explanation*

**04 INERR** No NPC's out of service and OOS keyword used

**06 INERR** Invalid range for specified FROM NPC type

**07 INERR** Invalid range for specified TO NPC type

**12 MCOND** Active CCN side not IS or failed or pested or hardware OOS

**13 MCOND** UNIT not equipped, not in service, or failed

**15 MCOND** FTMI not equipped, not in service, or failed

**16 MCOND** FC not eqd, not IS, or failed or inactive side FC not eqd or not IS

**17 MCOND** TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS

**18 MCOND** DSPI not equipped, not in service, or failed

**71 CONFERR** Try to delete a BBL leg from VC; however, VC has no BBL leg

**72 CONFERR** The NPC of VC BBL leg doesn't match that in the input command

**73 CONFERR** The first channel of VC BBL leg doesn't match that in the input command

| <b>cc</b> | <b>st</b>      | <i>Explanation</i>                                                        |
|-----------|----------------|---------------------------------------------------------------------------|
| <b>74</b> | <b>CONFERR</b> | Try to delete a BRD leg from VC; however, VC has no BRD leg               |
| <b>75</b> | <b>CONFERR</b> | The input BRD leg is not in VC                                            |
| <b>76</b> | <b>CONFERR</b> | The first channel of VC BRD leg doesn't match that in the input command   |
| <b>77</b> | <b>CONFERR</b> | Tried to disconnect a nonexistent VC                                      |
| <b>78</b> | <b>CONFERR</b> | Try to operate a ONE-WAY conference with a TWO-WAY input command          |
| <b>80</b> | <b>CONFERR</b> | Database conference width does not match the range in input command       |
| <b>84</b> | <b>CONFERR</b> | Trying to add or delete a leg when a conference is under test             |
| <b>A1</b> | <b>INERR</b>   | Illegal BBL BBL combination                                               |
| <b>A2</b> | <b>INERR</b>   | Illegal BRD BRD combination                                               |
| <b>A3</b> | <b>INERR</b>   | Illegal SYM BRD combination                                               |
| <b>A4</b> | <b>INERR</b>   | Illegal BRD SYM combination                                               |
| <b>A5</b> | <b>INERR</b>   | Illegal BBL SYM combination                                               |
| <b>A6</b> | <b>INERR</b>   | Illegal SYM BBL combination                                               |
| <b>AF</b> | <b>INERR</b>   | Delete or change a leg from a conference that has no leg                  |
| <b>1A</b> | <b>MCOND</b>   | Required FLI not equipped, not in service, or failed                      |
| <b>1B</b> | <b>MCOND</b>   | Required MXR not equipped, not in service, or failed                      |
| <b>1C</b> | <b>MCOND</b>   | Reqd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS |
| <b>1D</b> | <b>MCOND</b>   | Required MIU not equipped, not in service, or failed                      |
| <b>D0</b> | <b>SCERR</b>   | FROM NPC is not provisioned as DGA                                        |
| <b>D1</b> | <b>SCERR</b>   | TO NPC is not provisioned as DGA                                          |
| <b>D3</b> | <b>SCERR</b>   | Corresponding NPC for FROM virtual channel is not provisioned             |
| <b>D4</b> | <b>SCERR</b>   | Corresponding NPC for TO virtual channel is not provisioned               |
| <b>D6</b> | <b>INERR</b>   | Invalid FROM channel number                                               |
| <b>D7</b> | <b>INERR</b>   | Invalid TO channel number                                                 |
| <b>D9</b> | <b>INERR</b>   | Invalid FROM channel number range                                         |
| <b>DA</b> | <b>INERR</b>   | Invalid TO channel number range                                           |
| <b>DC</b> | <b>INERR</b>   | A loopback is active on the FROM termination                              |
| <b>DD</b> | <b>INERR</b>   | A loopback is active on the TO termination                                |
| <b>DF</b> | <b>INERR</b>   | Unmatched channel range                                                   |
| <b>E0</b> | <b>SCERR</b>   | Unmatched channel range involving SLC Mode III termination                |
| <b>E4</b> | <b>SCERR</b>   | RT-DCLU cross-connect with different ids                                  |
| <b>E5</b> | <b>SCERR</b>   | RT-DCLU cross-connect with different channel number                       |
| <b>E6</b> | <b>SCERR</b>   | Cross-connect a non Mode I channel to DCLU                                |
| <b>E7</b> | <b>SCERR</b>   | Cross-connect a non SLC channel to DCLU                                   |
| <b>EC</b> | <b>INERR</b>   | Invalid channel 000 cross-connection specified                            |
| <b>ED</b> | <b>INERR</b>   | Invalid channel 031 cross-connection specified                            |
| <b>FF</b> | <b>ROLL</b>    | Termination is in process of being rolled                                 |

| <b>st</b>      | <b>d</b>       | <i>Explanation</i>                  |
|----------------|----------------|-------------------------------------|
| <b>CUS</b>     | <b>{F T B}</b> | Customer-controlled Circuit         |
| <b>FAIL</b>    | <b>{F T B}</b> | Failed                              |
| <b>NOMTH</b>   | <b>{F T B}</b> | No Match                            |
| <b>OOS</b>     | <b>{F T B}</b> | Out-of-service                      |
| <b>RDC</b>     | <b>{F T B}</b> | Red Circuit                         |
| <b>ROLL</b>    | <b>{F T B}</b> | Circuit is involved in a roll       |
| <b>TP</b>      | <b>{F T B}</b> | NPC is used for test access         |
| <b>UNPASGN</b> | <b>{F T B}</b> | Unassigned or Not Properly Assigned |
| <b>UEQD</b>    | <b>{F T B}</b> | Unequipped                          |
| <b>UTST</b>    | <b>{F T B}</b> | Under Test                          |

## **TDIS, FROM, TO, INCL, OOS, DCC, PRIOUT**

### **DISCONNECTIONS, CROSS-CONNECT CIRCUITS**

#### **Explanation Of Command**

This message requests the disconnection of two-way, two-point cross-connect circuits or a range of cross-connected circuits.

#### **Command**

##### **Nonhierarchical**

[I.15001]

TDIS: FRM xy, SEQ ww: FROM [s]abcdddd[-eee], TO [t]ghijjj[-kkk]\  
[, INCL][, OOS][, DCC][, PRIOUT]!

##### **Hierarchical**

[I.15001]

TDIS: FRM xy, SEQ ww: FROM uvmnpddd[-eee], TO wxkqrjjj[-kkk]\  
[, INCL][, OOS][, DCC][, PRIOUT]!

#### **Completion Message**

##### **Nonhierarchical**

[O.15001]

M hh:mm:ss xy, ww n[vv] TDIS [s]abcdddd[-eee], [t]ghijjj[-kkk]\  
[ OOS][ DCC][ RDC][ PRIOUT] COMPL



### **Hierarchical**

---

[O.15001]

M hh:mm:ss xy,ww n[vv] TDIS uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ OOS][ DCC][ RDC][ PRIOUT] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.15001.01]

M hh:mm:ss xy,ww n[vv] TDIS [s]abcdddd[-eee],[t]ghijjj[-kkk]\  
[ mmm,nnn] cc <st> DNY

[O.15001.02]

M hh:mm:ss xy,ww n[vv] TDIS [s]abcdddd[-eee],[t]ghijjj[-kkk]\  
[ mmm,nnn] <d> <st> DNY

### **Hierarchical**

---

[O.15001.01]

M hh:mm:ss xy,ww n[vv] TDIS uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ mmm,nnn] cc <st> DNY

[O.15001.02]

M hh:mm:ss xy,ww n[vv] TDIS uvmnpddd[-eee],wxkqrjjj[-kkk]\  
[ mmm,nnn] <d> <st> DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**FROM** - From termination  
**TO** - To termination

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number  
**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**uv, wx** - Unit number  
**m, k** - Module number  
**np, qr** - NPC number within the module  
 The values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
 Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
 Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd, jjj**  
 - Channel numbers  
**eee, kkk**  
 - Channel numbers, denoting the end of a range.

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**INCL** - Inclusive

To disconnect a circuit or range of circuits including one or more circuits marked either RDC or CUS, use the optional INCL keyword. If this keyword is not used, the message will be denied if any circuits in the range are red circuits or customer controlled circuits.

**OOS** - Out of service

An Out-Of-Service disconnection may be done by giving the optional OOS keyword. At least one end of the circuit must be out-of-service or the OOS disconnection will be denied. This keyword is not valid if the DSPP NPC is the only NPC out-of-service.

**DCC** - Disconnect code

If the Disconnect Code (DCC) option is specified, DACS II will insert the user-defined disconnect code and signaling into the disconnected channels. This disconnect code and signaling are specified by the trunk conditioning field of the cross connect command that initially connected the channels. Only the post 2.5 second signaling will be inserted in the disconnected channels. If the DCC option was specified on a fully transparent (TRSP with no insertion word) domestic circuit, DACS II will insert the default trouble code X'E4. If the DCC option is not used, the disconnect code specified in the grow NPC command will be used.

**PRIOUT** - Priority Output

This keyword is used on the command line to prioritize the output response.

**CUS** - Customer

Customer-controlled circuit

Terminations cross-connected using the optional CUS keyword retain their CUS status when disconnected. If the terminations are reconnected without the CUS or INCL keyword, the command will be denied. When they are reconnected with the INCL keyword, they lose their customer controlled status.

**RDC** - Red circuit

**mmm, nnn**

- Channel number involved in the denial. Otherwise the same as ddd.

**d** - Direction

| <b>d</b> | <i>Explanation</i> |
|----------|--------------------|
| F        | From               |
| T        | To                 |
| B        | Both               |

**st** - Status of denial

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                         |
|-----------|--------------|------------------------------------------------------------|
| <b>04</b> | <b>INERR</b> | No NPC's out of service and OOS keyword used               |
| <b>06</b> | <b>INERR</b> | Invalid range for specified FROM NPC type                  |
| <b>07</b> | <b>INERR</b> | Invalid range for specified TO NPC type                    |
| <b>12</b> | <b>MCOND</b> | Active CCN side not IS or failed or pested or hardware OOS |
| <b>13</b> | <b>MCOND</b> | UNIT not equipped, not in service, or failed               |

| cc | st    | Explanation                                                               |
|----|-------|---------------------------------------------------------------------------|
| 14 | MCOND | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS     |
| 15 | MCOND | FTMI not equipped, not in service, or failed                              |
| 16 | MCOND | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS       |
| 17 | MCOND | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS     |
| 1A | MCOND | Required FLI not equipped, not in service, or failed                      |
| 1B | MCOND | Required MXR not equipped, not in service, or failed                      |
| 1C | MCOND | Reqd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS |
| 1D | MCOND | Required MIU not equipped, not in service, or failed                      |
| D0 | SCERR | FROM NPC is not provisioned as DGA                                        |
| D1 | SCERR | TO NPC is not provisioned as DGA                                          |
| D6 | INERR | Invalid FROM channel number                                               |
| D7 | INERR | Invalid TO channel number                                                 |
| D9 | INERR | Invalid FROM channel number range                                         |
| DA | INERR | Invalid TO channel number range                                           |
| DC | INERR | A loopback is active on the FROM termination                              |
| DD | INERR | A loopback is active on the TO termination                                |
| DF | INERR | Unmatched channel range                                                   |
| E0 | SCERR | Unmatched channel range involving SLC Mode III termination                |
| E4 | SCERR | RT-DCLU cross-connect with different ids                                  |
| E5 | SCERR | RT-DCLU cross-connect with different channel number                       |
| E6 | SCERR | Cross-connect a non Mode I channel to DCLU                                |
| E7 | SCERR | Cross-connect a non SLC channel to DCLU                                   |
| EC | INERR | Invalid channel 000 cross-connection specified                            |
| ED | INERR | Invalid channel 031 cross-connection specified                            |
| 42 | MCOND | DSPP not in service, or failed                                            |
| FF | ROLL  | Termination is in process of being rolled                                 |
| E0 | MCOND | ETSI not equipped, not in service, or failed                              |

| st      | d       | Explanation                         |
|---------|---------|-------------------------------------|
| CUS     | {F T B} | Customer-controlled Circuit         |
| FAIL    | {F T B} | Failed                              |
| NOMTH   | {F T B} | No Match                            |
| OOS     | {F T B} | Out-of-service                      |
| RDC     | {F T B} | Red Circuit                         |
| ROLL    | {F T B} | Circuit is involved in a roll       |
| TP      | {F T B} | NPC is used for test access         |
| UNPASGN | {F T B} | Unassigned or Not Properly Assigned |
| UEQD    | {F T B} | Unequipped                          |
| UTST    | {F T B} | Under Test                          |

## **TDIS, FROM, TO, OOS, INCL, PRIOUT**

### **TWO-WAY DISCONNECTION**

#### **Explanation Of Command**

This message disconnects a two-way cross-connection between two non-channelized network processing circuits. When the circuit is disconnected, the idle code (AIS) is transmitted.

#### **Command**

##### **Nonhierarchical**

[I.15011]

TDIS:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,OOS][,INCL][,PRIOUT]!

##### **Hierarchical**

[I.15011]

TDIS:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,OOS][,INCL][,PRIOUT]!

#### **Completion Message**

##### **Nonhierarchical**

[O.15011]

M hh:mm:ss xy,ww n[vv] TDIS [s]abc,[t]ghi[ OOS][ RDC][ CUS] \  
[ PRIOUT] COMPL

### **Hierarchical**

---

[O.15011]

M hh:mm:ss xy,ww n[vv] TDIS uvmnp,wxkqr[ OOS][ RDC][ CUS] \  
[ PRIOUT] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.15011.01]

M hh:mm:ss xy,ww n[vv] TDIS [s]abc,[t]ghi cc <st> DNY

[O.15011.02]

M hh:mm:ss xy,ww n[vv] TDIS [s]abc,[t]ghi d <st> DNY

### **Hierarchical**

---

[O.15011.01]

M hh:mm:ss xy,ww n[vv] TDIS uvmnp,wxkqr cc <st> DNY

[O.15011.02]

M hh:mm:ss xy,ww n[vv] TDIS uvmnp,wxkqr d <st> DNY

### **Autonomous Message**

---

Not applicable.



## Explanation Of Parameters

**FROM** - From termination  
**TO** - To termination

**[s]abc** - The 3- or 4-digit non-hierarchical non-channelized FROM NPC number  
**[t]ghi** - The 3- or 4-digit non-hierarchical non-channelized TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical number of non-channelized FROM NPC

**wxkqr** - Hierarchical number of non-channelized TO NPC

**uv, wx** - Unit number  
**m, k** - Module number  
**np, qr** - NPC number

The valid values are listed below:

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**INCL** - Inclusive

Required for a CUS circuit or a red circuit

**PRIOUT** - Priority Output

This keyword is used on the command line to prioritize the output response.

**OOS** - Out-of-Service

May be specified if one or both NPCs are out of service

**RDC** - Red circuit

Disconnection of Red circuit

**CUS** - Customer

Disconnection of Customer-controlled Circuit

**st** - Status of denial

**d** - Direction

d *Explanation*

F From

T To

B Both

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>st</b>    | <i>Explanation</i>                                                        |
|-----------|--------------|---------------------------------------------------------------------------|
| <b>04</b> | <b>INERR</b> | No NPC's out of service and OOS keyword used                              |
| <b>12</b> | <b>MCOND</b> | Active CCN side not IS or failed or pested or hardware OOS                |
| <b>13</b> | <b>MCOND</b> | UNIT not equipped, not in service, or failed                              |
| <b>14</b> | <b>MCOND</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS     |
| <b>15</b> | <b>MCOND</b> | FTMI not equipped, not in service, or failed                              |
| <b>16</b> | <b>MCOND</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS       |
| <b>17</b> | <b>MCOND</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS     |
| <b>1A</b> | <b>MCOND</b> | Required FLI not equipped, not in service, or failed                      |
| <b>1B</b> | <b>MCOND</b> | Required MXR not equipped, not in service, or failed                      |
| <b>1C</b> | <b>MCOND</b> | Reqd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS |
| <b>1D</b> | <b>MCOND</b> | Required MIU not equipped, not in service, or failed                      |
| <b>FF</b> | <b>ROLL</b>  | Termination is in process of being rolled                                 |
| <b>E0</b> | <b>MCOND</b> | ETSI not equipped, not in service, or failed                              |

| <b>st</b>      | <b>d</b>       | <i>Explanation</i>                  |
|----------------|----------------|-------------------------------------|
| <b>CUS</b>     | <b>{F T B}</b> | Customer-controlled Circuit         |
| <b>FAIL</b>    | <b>{F T B}</b> | Failed                              |
| <b>INVLD</b>   | <b>{F T B}</b> | Invalid NPC type                    |
| <b>NOMTH</b>   | <b>{F T B}</b> | No Match                            |
| <b>NPCTA</b>   | <b>{F T B}</b> | NPC used for Test Access            |
| <b>OOS</b>     | <b>{F T B}</b> | Out-of-service                      |
| <b>RDC</b>     | <b>{F T B}</b> | Red Circuit                         |
| <b>ROLL</b>    | <b>{F T B}</b> | Circuit is involved in a roll       |
| <b>UNPASGN</b> | <b>{F T B}</b> | Unassigned or Not Properly Assigned |
| <b>UEQD</b>    | <b>{F T B}</b> | Unequipped                          |
| <b>UTST</b>    | <b>{F T B}</b> | Under Test                          |

## **TTST,HUB,TO,TG**

### **NX64Kbit/s TWO-WAY TEST ACCESS, HUB**

#### **Explanation Of Command**

To set up an Nx64Kbit/s hub test access connection via a test-access group to an Nx64Kbit/s TO termination. The TO termination consists of two Nx64Kbit/s bundles that will be connected to the test-access group's east and west bundles. These channel bundles must be of the same width as the test-access group. If all of the channels, starting at the number specified for the TO termination, are not available the first unavailable channel encountered will cause the command to be denied. The channel that caused the denial will be reported in the denial message.

#### **Command**

##### **Nonhierarchical**

[I.24021]

TTST:FRM xy,SEQ ww:HUB,TO ([s]abcddd,[t]ghijjj),TG mmm[,<tc>]!

##### **Hierarchical**

[I.24021]

TTST:FRM xy,SEQ ww:HUB,TO (uvmnpddd,wxkqrjjj),TG mmm[,<tc>]!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.24021]

M hh:mm:ss xy,ww n[vv] TTST HUB [s]abcddd,[t]ghijjj NN TG mmm \  
2 LN MSG:  
<tc> CGA(fsb) COMPL

#### **Hierarchical**

---

[O.24021]

M hh:mm:ss xy,ww n[vv] TTST HUB uvmnpddd,wxkqrjjj NN TG mmm \  
2 LN MSG:  
<tc> CGA(fsb) COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.24021.01]

M hh:mm:ss xy,ww n[vv] TTST HUB [s]abcddd,[t]ghijjj TG mmm \  
[[u]jklppp] COND cc DNY

#### **Hierarchical**

---

[O.24021.01]

M hh:mm:ss xy,ww n[vv] TTST HUB uvmnpddd,wxkqrjjj TG mmm \  
[jklmnp] COND cc DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**TG** - Test (access) group

**mmm** - Test access group number (001 through 400)

TG is designated as in the GRTH,TG,NPCTG command.

**HUB** - Hub

**[s]abc** - 3- or 4-digit non-hierarchical first TO NPC number

**[t]ghi** - 3- or 4-digit non-hierarchical second TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |



If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical first TO NPC number

**wxkqr** - Hierarchical second TO NPC number

**uv,wx** - Unit number

**m,k** - Module number

**np,qr** - NPC number within the module

The valid values are listed below:

DE type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Starting channel number of first TO NPC  
**jjj** - Starting channel number of second TO NPC  
**ppp** - First channel causing denial

001 through 024

**tc** - Trunk conditioning

If the static tc was not furnished in the growth TG command, it must be dynamically specified in this command or the test access will be denied. A dynamic tc will override any static tc. The effective tc will be used for all channels used in this test connection, and will be shown in the output.

**CGA** - Carrier group alarm

**PBA** - Primary block alarm

**fsb** - CGA or PBA state

f - First TO NPC CGA or PBA state

*f Explanation*

|   |                                   |
|---|-----------------------------------|
| F | First TO NPC is in CGA or PBA     |
| 0 | First TO NPC is not in CGA or PBA |

s - Second TO NPC CGA or PBA state

*s Explanation*

S Second TO NPC is in CGA or PBA  
0 Second TO NPC is not in CGA or PBA

b - TG digroup CGA or PBA state

*b Explanation*

E East-bundle NPCTG in CGA or PBA  
W West-bundle NPCTG in CGA or PBA  
B NPCTG(s) supporting both bundles in CGA or PBA  
0 NPCTG(s) not in CGA or PBA

**RDC** - Red circuit

The cross-connection tested is a red circuit.

**CUS** - Customer

The cross-connection tested is a customer-controlled circuit.

**COND** - Condition

**NN** - TG width (1 through 24)

**cc** - Hexadecimal condition code

*cc Explanation*

26 NPC type error  
12 Active CCN side not IS or failed or pested or hardware OOS  
13 UNIT not equipped, not in service, or failed  
14 CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS  
15 FTMI not equipped, not in service, or failed  
16 FC not eqd, not IS, or failed or inactive side FC not eqd or not IS  
17 TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS  
18 DSPI not equipped, not in service, or failed  
1A Required FLI not equipped, not in service, or failed  
1B Required MXR not equipped, not in service, or failed  
1C Req'd FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS  
1D Required MIU not equipped, not in service, or failed  
E0 ETSI not equipped, not in service, or failed  
47 Invalid channel number  
49 test group unequipped  
4A channel part of a TP or TG  
4B channel already under test  
4D Gateway test access not supported  
51 TG width incompatible with circuit  
53 inconsistent HUB width for specified TG

**cc**    *Explanation*

- 59**    Invalid TC specification
- 5A**    NPC not in service or failed
- 5D**    Inconsistent Signaling on CEPT NPCTGs
- 5E**    invalid test access mode
- 5F**    input channel out of range (SLC not supported)
- 60**    circuit contains mapped channels for HUB request
- 95**    TG East/West type inconsistent with each other or circuit
- 96**    incompatible HUB feature types

## **TTST,HUB,TO,TP**

### **TWO-WAY TEST ACCESS, HUB**

#### **Explanation Of Command**

This command requests a hubbing mode test access via a specified test port (TP) to the TO termination. In the hubbing mode, DACS II is used as a test access concentrator to connect a local TP to a remote TP. The cross-connection will be made between TP **kk** and two 64-kb/s channels, the TO end of which is specified in the command. Successive termination numbers **jjj** and **ddd** correspond to lower and upper channels of the test port, respectively. These two channels are from a test port in another DACS II or other test access device to be cross-connected. DACS II does not know if the requested access is, in fact, to a hubbed test port on another frame; however, the request will be denied if either channel is mapped, under test, or if channel **jjj** would be out of range on the NPC.

Trunk conditioning **<tc** may be specified, however, it only has an effect on Gateway (T1-E1) conversion circuits. For hub test access of non-Gateway circuits, any trunk conditioning values entered by the user will be overwritten by all one values for the circuit's signaling and insertion word.

#### **Command**

##### **Nonhierarchical**

[I.24001]

TTST:FRM xy,SEQ ww:HUB,<tc>,TO [t]ghijjj,TP kk!

##### **Hierarchical**

[I.24001]

TTST:FRM xy,SEQ ww:HUB,<tc>,TO uvmnpjjj,TP kk!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.24001]

M hh:mm:ss xy,ww n[vv] TTST HUB [t]ghijjj,[t]ghimmm TP kk \\  
2 LN MSG:  
<tc>[ NAM] CGA(ftp) COMPL

#### **Hierarchical**

---

[O.24001]

M hh:mm:ss xy,ww n[vv] TTST HUB uvmnpjjj,uvmnpmmm TP kk \\  
2 LN MSG:  
<tc>[ NAM] CGA(ftp) COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.24001.01]

M hh:mm:ss xy,ww n[vv] TTST HUB [t]ghijjj <tc>[ NAM] TP kk <st> \\  
DNY

If the error response exceeds 80 characters:

[O.24001.02]

M hh:mm:ss xy,ww n[vv] TTST HUB [t]ghijjj <tc> 2 LN MSG:  
[NAM ]TP kk <st> DNY

#### **Hierarchical**

---

[O.24001.01]

M hh:mm:ss xy,ww n[vv] TTST HUB uvmnpjjj <tc>[ NAM] TP kk <st> \\  
DNY

If the error response exceeds 80 characters:

[O.24001.02]

M hh:mm:ss xy,ww n[vv] TTST HUB uvmnpjjj <tc> 2 LN MSG:  
[NAM ]TP kk <st> DNY

### Autonomous Message

Not applicable.

### Explanation Of Parameters

**HUB** - Hub

**TO** - To

**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |



|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical TO NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The valid values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**jjj** - TO channel number

The TO channel number must correspond to a lower channel of a test port.

**tc** - Trunk conditioning

tc represents the desired cross-connected signaling and insertion word applied when a failure occurs. A trunk conditioning specification consists of a combination of a signaling specification followed by an insertion word specification. The signaling and the insertion word specification are entered separately, with a comma as the delimiter.

|                        |                                      |
|------------------------|--------------------------------------|
| <i>signaling</i>       | <i>Explanation</i>                   |
| TC(ijkl,mnop)          | 2-way, 4-state signaling in binary.  |
| TC(ijklmnop,qrstuvwxy) | 2-way, 16-state signaling in binary. |
| TC(X'ab,X'cd)          | 2-way, 16-state in hexadecimal.      |
| TRSP                   | Transparent, no signaling.           |

| <i>insertion word</i> | <i>Explanation</i>                                                                                                                       |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| IW X'pq               | The 8-bit pattern corresponding to the hexadecimal value of pq will be inserted in the downstream direction of a failure on either line. |
| TRB                   | Standard trouble code, equal to IW X'E4.                                                                                                 |
| MUX                   | MUX out of sync code, equal to IW X'1A.                                                                                                  |
| <b>mmm</b>            | - Channel number<br>Variable mmm is equal to jjj + 1. Must be an even number.                                                            |
| <b>TP</b>             | - Test port                                                                                                                              |
| <b>kk</b>             | - Test port number (01 through 96)                                                                                                       |
| <b>CGA</b>            | - Carrier group alarm                                                                                                                    |
| <b>f</b>              | - FROM CGA status                                                                                                                        |
| <i>f</i>              | <i>Explanation</i>                                                                                                                       |
| F                     | FROM NPC is in CGA                                                                                                                       |
| 0                     | FROM NPC is not in CGA                                                                                                                   |
| <b>t</b>              | - TO CGA status                                                                                                                          |
| <i>t</i>              | <i>Explanation</i>                                                                                                                       |
| T                     | TO NPC is in CGA                                                                                                                         |
| 0                     | TO NPC is not in CGA                                                                                                                     |
| <b>p</b>              | - Test port NPC CGA status                                                                                                               |
| <i>p</i>              | <i>Explanation</i>                                                                                                                       |
| P                     | Test port NPC is in CGA                                                                                                                  |
| 0                     | Test port NPC is not in CGA                                                                                                              |

**Note:** FROM test port NPC will never appear in the CGA condition.

|          |                                      |
|----------|--------------------------------------|
|          | Signaling mode of port               |
| <b>T</b> | - Transparent                        |
| <b>R</b> | - Robbed bit Signaling               |
| <b>C</b> | - Channel associated signaling (CAS) |
| <b>H</b> | - Hubbing                            |

**ASGN** - Assigned

The test port is already assigned.

**NMON** - Not monitor

The test port is not in monitor mode.

**st** - Status

| <b>st</b>          | <i>Explanation</i>                                         |
|--------------------|------------------------------------------------------------|
| <b>BADCCB</b>      | CCB OOS or failed                                          |
| <b>BADCCN</b>      | CCN OOS or failed                                          |
| <b>BADFC</b>       | FC OOS or failed                                           |
| <b>BADFCB</b>      | FCB OOS or failed                                          |
| <b>BADFLI</b>      | FLI OOS or failed                                          |
| <b>BADFMT</b>      | FMT (Formatter) OOS or failed                              |
| <b>BADFTMI</b>     | FTMI OOS or failed                                         |
| <b>BADMIU</b>      | MIU OOS or failed                                          |
| <b>BADMXR</b>      | MXR OOS or failed                                          |
| <b>BADTSI</b>      | TSI OOS or failed                                          |
| <b>BADUNIT</b>     | UNIT OOS or failed                                         |
| <b>EVEN</b>        | TO termination is not an odd channel                       |
| <b>FAIL</b>        | Test port Group NPC failed                                 |
| <b>IMPR TC</b>     | Improper trunk conditioning specification                  |
| <b>MCOND</b>       | An entity in the network is OOS or failed                  |
| <b>NA</b>          | DACS CCN or UNIT involved cannot perform the cross-connect |
| <b>NAM_NA</b>      | NAM keyword is not applicable to the cross-connection type |
| <b>NOT IDLE</b>    | Test port is not idle                                      |
| <b>OOS</b>         | Test port Group NPC out of service                         |
| <b>SG COND 02</b>  | Test port is static                                        |
| <b>T CLR</b>       | The TO NPC is a clear-DS1 or clear-2Mb NPC                 |
| <b>T FAIL</b>      | TO side NPC is marked failed                               |
| <b>T NOT CAS</b>   | TO termination not CAS.                                    |
| <b>T NOT LOWER</b> | TO termination is not the lower test access channel        |
| <b>T OOS</b>       | TO side NPC is Out Of Service                              |
| <b>T UEQD</b>      | TO side NPC is Unequipped                                  |
| <b>T UTST</b>      | TO termination is under test                               |
| <b>TERM ASGN</b>   | TO termination is assigned                                 |
| <b>TG</b>          |                                                            |
| <b>TP</b>          | TO termination is a test port                              |
| <b>T_SCDG</b>      | TO termination is an RT (DL) termination                   |
| <b>UEQD</b>        | The test port Group NPC is unequipped                      |

## **TTST,LPD,TG**

### **NX64Kbit/s LOOPED TEST ACCESS**

#### **Explanation Of Command**

This command is used to place both bundles of a test-access group (TG) in the looped mode. If the TG is not provisioned or currently assigned the command will be denied.

#### **Command**

[I.29021]

**TTST:FRM xy,SEQ ww:LPD,TG mmm[,<tc>]!**

#### **Completion Message**

[O.29021]

**M hh:mm:ss xy,ww n[vv] TTST LPD TG mmm NN <tc> COMPL**

#### **Denial Message**

[O.29021.01]

**M hh:mm:ss xy,ww n[vv] TTST LPD TG mmm COND cc DNY**

#### **Autonomous Message**

Not applicable.

## Explanation Of Parameters

**LPD** - Looped

**TG** - Test (access) group

**mmm** - TG number (001 through 400)

**tc** - Trunk conditioning

If the static tc was not furnished in the growth TG command, it must be dynamically specified in this command or the test access will be denied. A dynamic tc will override any static tc. The effective tc will be used, and will be output.

**COND** - Condition

**NN** - TG width (1 through 24)

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 12** Active CCN side not IS or failed or pested or hardware OOS
- 13** UNIT not equipped, not in service, or failed
- 14** CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
- 15** FTMI not equipped, not in service, or failed
- 16** FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
- 17** TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
- 18** DSPI not equipped, not in service, or failed
- 1A** Required FLI not equipped, not in service, or failed
- 1B** Required MXR not equipped, not in service, or failed
- 1C** Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS
- 1D** Required MIU not equipped, not in service, or failed
- E0** ETSI not equipped, not in service, or failed
- 49** test group unequipped
- 59** Invalid TC specification
- 5A** NPC not in service or failed
- 5D** Inconsistent Signaling on CEPT NPCTGs
- 5E** invalid test access mode
- 95** TG East/West type inconsistent with each other or circuit

## **TTST,LPD,TP**

### **LOOPED TEST ACCESS**

#### **Explanation Of Command**

This message requests that both test port channels on a given test port be placed in the looped mode.

Trunk conditioning *may be specified* to loop a static test port **kk**. If specified it will override the specification given when the test port was equipped. If not specified it will default to the specification given when the test port was equipped.

Trunk conditioning *must be specified* to loop a dynamic test port **kk** since tc is dynamically set when any test access message makes the test port active. If trunk conditioning is omitted, the request will be denied.

**TTST::TPR,TP** will undo this command.

The test port is mapped to predesignated channels of a network processing circuit for test ports (NPCTP) during the provisioning of that test port. All domestic non-SLC NPC types can be provisioned as NPCTP. For the mapping between the test ports and the channels of the test NPCs, see the GRTH::TP message.

#### **Command**

[I.29001]

**TTST:FRM xy,SEQ ww:LPD,TP kk,<tc>!**

#### **Completion Message**

[O.29001]

**M hh:mm:ss xy,ww n[vv] TTST LPD TP kk <tc> COMPL**

## Denial Message

[O.29001.01]

M hh:mm:ss xy,ww n[vv] TTST LPD TP kk <st> DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**LPD** - Looped

**TP** - Test port

**kk** - Test port number (01 through 96)

**tc** - Trunk conditioning

Represents the desired cross-connected signaling and insertion word applied when a failure occurs. A trunk conditioning specification consists of a combination of a signaling specification followed by an insertion word specification. For example, TRSP,IW X'pq (input form).

The following signaling options are allowed:

| <i>signaling</i>      | <i>Explanation</i>                                                                                                                                                          |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TC(ijkl,mnop)         | 2-way,4-state signaling in binary. For ESF type framing format, software will expand 4-state to 16-state by duplicating the format on the remaining frames on a superframe. |
| TC(efghijkl,mnopqrst) | 2-way,16-state in binary. Only valid for ESF framing format.                                                                                                                |
| TC(X'ab,X'cd)         | 2-way,16-state in hexadecimal                                                                                                                                               |
| TRSP                  | Transparent, no signaling                                                                                                                                                   |



The following insertion words options are allowed:

*insertion word Explanation*

|         |                                                                                                                                          |
|---------|------------------------------------------------------------------------------------------------------------------------------------------|
| IW X'pq | The 8-bit pattern corresponding to the hexadecimal value of pq will be inserted to the downstream direction of a failure on either line. |
| TRB     | Standard trouble code, equal to IW X'E4.                                                                                                 |
| MUX     | MUX out of sync code, equal to IW X'A1.<br>(only valid with signaling option TRSP)                                                       |

The following trunk conditioning usage applies:

- If trunk conditioning is omitted from this message and was omitted from GRTH::TP, the message will be denied.
- If trunk conditioning is omitted from this message but was provided in GRTH::TP, the trunk conditioning value provided in GRTH::TP, is applied.
- If trunk conditioning is provided in this message, it overrides the value, (if provided), in GRTH::TP.

**st** - Status

**st** *Explanation*

|                 |                                                            |
|-----------------|------------------------------------------------------------|
| <b>ASGN</b>     | Termination assigned                                       |
| <b>BADCCN</b>   | CCN OOS or failed                                          |
| <b>BADFC</b>    | FC OOS or failed                                           |
| <b>BADFLI</b>   | FLI OOS or failed                                          |
| <b>BADFMT</b>   | FMT (Formatter) OOS or failed                              |
| <b>BADFTMI</b>  | FTMI OOS or failed                                         |
| <b>BADMIU</b>   | MIU OOS or failed                                          |
| <b>BADMXR</b>   | MXR OOS or failed                                          |
| <b>BADTSI</b>   | TSI OOS or failed                                          |
| <b>BADUNIT</b>  | UNIT OOS or failed                                         |
| <b>FAIL</b>     | Test port Group NPC failed                                 |
| <b>IMPR TC</b>  | Improper trunk conditioning specification                  |
| <b>MCOND</b>    | An entity in the network is OOS or failed                  |
| <b>NA</b>       | DACS CCN or UNIT involved cannot perform the cross-connect |
| <b>NO TC</b>    | <tc> not provided                                          |
| <b>NOT IDLE</b> | Test port is not idle                                      |

| <b>st</b>         | <i>Explanation</i>                                 |
|-------------------|----------------------------------------------------|
| <b>00S</b>        | Test port Group NPC out of service                 |
| <b>SG COND 02</b> | Trunk conditioning not given for dynamic test port |
| <b>UEQD</b>       | The test port Group NPC is unequipped              |

---

## TTST,MON,TG

---

### NX64Kbit/s TWO-WAY TEST ACCESS, MONITOR

#### Explanation Of Command

---

This command is used to change the mode of a test-access group, that is currently in the split mode, to the monitor mode.

**Note:** If the test-access group is already in the monitor mode this command will be denied.

#### Command

---

[I.21031]

TTST:FRM xy,SEQ ww:MON,TG mmm!

#### Completion Message

---

#### Nonhierarchical

---

[O.21031]

```
M hh:mm:ss xy,ww n[vv] TTST MON TG mmm FROM [s]abc TO [t]ghi \
5 LN MSG:
SG g CGA(ftb)[ RDC][ CUS][ ONEWAY] {TLA s|BCAST|UMPD <tc>}
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd COMPL
```

## Hierarchical

[O.21031]

M hh:mm:ss xy,ww n[vv] TTST MON TG mmm FROM uvmnp TO wxkqr \\  
5 LN MSG:  
SG g CGA(ftb)[ RDC][ CUS][ ONEWAY] {TLA s|BCAST|UMPD <tc>}  
ddd ddd ddd ddd ddd ddd ddd  
ddd ddd ddd ddd ddd ddd ddd  
ddd ddd ddd ddd ddd ddd ddd COMPL

## Denial Message

[O.21031.01]

M hh:mm:ss xy,ww n[vv] TTST MON TG mmm COND cc DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**TG** - Test-access group

**mmm** - Test-access group number (001 through 400)

The TG is designated as in message 31421, and must have the same width as the number of channels specified in this message.

**MON** - Monitor

**[s]abc** - 3- or 4-digit non-hierarchical FROM NPC number

**[t]ghi** - 3- or 4-digit non-hierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                              |                              |                              |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |

| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number  
**wxkqr** - Hierarchical TO NPC number

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

The valid values are listed below:

DE type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM Channel numbers

001 through 024



The FROM channel ddd will be '---' for circuits not involved in this test session. For unmapped TO channel(s) or a BBL without return, ddd will be '000' in the corresponding channel position(s). If TO channel is mapped to a channel 000, the circuit can only be tested as N = 1, the corresponding FROM channel ddd will be '000'.

**tc** - Trunk conditioning

For mapped circuits, <tc> will be omitted.

For unmapped circuits, the effective <tc> will be output.

**SG** - Signaling

**g** - Signaling mode of the TG

*g Explanation*

T All channels are Transparent (TRSP)

R One or more channels is robbed-bit or non-TRSP

**CGA** - Carrier group alarm

**PBA** - Primary block alarm

**ftb** - CGA or PBA state

f - FROM CGA or PBA state

*f Explanation*

F FROM NPC is in CGA or PBA

0 FROM NPC is not in CGA or PBA

t - TO CGA or PBA state

*t Explanation*

T TO NPC is in CGA or PBA

0 TO NPC is not in CGA or PBA

b - TG digroup CGA or PBA state

*b Explanation*

E East-bundle NPCTG in CGA or PBA

W West-bundle NPCTG in CGA or PBA

B NPCTG(s) supporting both bundles in CGA or PBA

0 NPCTG(s) not in CGA or PBA

**RDC** - Red circuit

The cross-connection tested is a red circuit.

**CUS** - Customer

The cross-connection tested is a customer-controlled circuit.

**ONEWAY** - One-way

The cross-connection tested is a one-way circuit.

**BCAST** - Broadcast

The cross-connection tested is part of a broadcast circuit.

**TLA** - Terminate and leave active

**s**

- Termination state of the circuit

| <i>s</i> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|   |                           |
|---|---------------------------|
| R | All channels are released |
|---|---------------------------|

|   |                                        |
|---|----------------------------------------|
| F | One or more FROM channel is terminated |
|---|----------------------------------------|

|   |                                      |
|---|--------------------------------------|
| T | One or more TO channel is terminated |
|---|--------------------------------------|

|   |                                                    |
|---|----------------------------------------------------|
| B | One or more of FROM and TO channels are terminated |
|---|----------------------------------------------------|

**UMPD** - Unmapped

The circuit under test is unmapped.

**COND** - Condition

**cc** - Hexadecimal condition code

| <b>cc</b> | <i>Explanation</i> |
|-----------|--------------------|
|-----------|--------------------|

|           |                                                            |
|-----------|------------------------------------------------------------|
| <b>12</b> | Active CCN side not IS or failed or pested or hardware OOS |
|-----------|------------------------------------------------------------|

|           |                                              |
|-----------|----------------------------------------------|
| <b>13</b> | UNIT not equipped, not in service, or failed |
|-----------|----------------------------------------------|

|           |                                                                       |
|-----------|-----------------------------------------------------------------------|
| <b>14</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS |
|-----------|-----------------------------------------------------------------------|

|           |                                              |
|-----------|----------------------------------------------|
| <b>15</b> | FTMI not equipped, not in service, or failed |
|-----------|----------------------------------------------|

|           |                                                                     |
|-----------|---------------------------------------------------------------------|
| <b>16</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS |
|-----------|---------------------------------------------------------------------|

|           |                                                                       |
|-----------|-----------------------------------------------------------------------|
| <b>17</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS |
|-----------|-----------------------------------------------------------------------|

|           |                                              |
|-----------|----------------------------------------------|
| <b>18</b> | DSPI not equipped, not in service, or failed |
|-----------|----------------------------------------------|

|           |                                                      |
|-----------|------------------------------------------------------|
| <b>1A</b> | Required FLI not equipped, not in service, or failed |
|-----------|------------------------------------------------------|

|           |                                                      |
|-----------|------------------------------------------------------|
| <b>1B</b> | Required MXR not equipped, not in service, or failed |
|-----------|------------------------------------------------------|

**cc**    *Explanation*

- 1C**    Req'd FMT not eq'd, not IS, or failed, or inact side FMT not eq'd, or not IS
- 1D**    Required MIU not equipped, not in service, or failed
- E0**    ETSI not equipped, not in service, or failed
- 47**    Invalid channel number
- 49**    test group unequipped
- 5A**    NPC not in service or failed
- 5E**    invalid test access mode

## **TTST,MON,TO,TG**

### **NX64Kbit/s TWO-WAY TEST ACCESS, MONITOR**

#### **Explanation Of Command**

This command is used to request a monitor test access of a specified group of Nx64Kbit/s terminations. The test access is made through the test-access group specified in the command line.

The N TO channels to be tested may be entered as a range, a list, or a combination of both, in ascending order. For two-point circuits, the numbers do not have to be consecutive, and the circuits may have been cross-connected separately. For a one-way circuit under test, the other direction of the same termination cannot be tested at the same time. For Nx64Kbit/s broadcast circuits, the channels have to be consecutive and must have been set up together for the same broadcast circuit.

The primary output line will not echo the input with range(s) of channels, but will show a list of all channels.

#### **Command**

##### **Nonhierarchical**

[I.21021]

```
TTST:FRM xy,SEQ ww:MON,TO [t]ghi(jjj[-kkk][,lll,...])[,<tc>],\  
TG mmm!
```

##### **Hierarchical**

[I.21021]

```
TTST:FRM xy,SEQ ww:MON,TO wxkqr(jjj[-kkk][,lll,...])[,<tc>],\  
TG mmm!
```

---

### Completion Message

---

#### Nonhierarchical

---

[O.21021]

M hh:mm:ss xy,ww n[vv] TTST MON TG mmm FROM [s]abc TO [t]ghi \\  
5 LN MSG:  
SG g CGA(ftb)[ RDC][ CUS][ ONEWAY] {TLA s|BCAST|UMPD <tc>}  
ddd ddd ddd ddd ddd ddd ddd  
ddd ddd ddd ddd ddd ddd ddd  
ddd ddd ddd ddd ddd ddd ddd COMPL

#### Hierarchical

---

[O.21021]

M hh:mm:ss xy,ww n[vv] TTST MON TG mmm FROM uvmnp TO wxqgr \\  
5 LN MSG:  
SG g CGA(ftb)[ RDC][ CUS][ ONEWAY] {TLA s|BCAST|UMPD <tc>}  
ddd ddd ddd ddd ddd ddd ddd  
ddd ddd ddd ddd ddd ddd ddd  
ddd ddd ddd ddd ddd ddd ddd COMPL

---

### Denial Message

---

#### Nonhierarchical

---

[O.21021.01]

M hh:mm:ss xy,ww n[vv] TTST MON TG mmm[ [t]ghipp] COND cc DNY

#### Hierarchical

---

[O.21021.01]

M hh:mm:ss xy,ww n[vv] TTST MON TG mmm[ wxqrppp] COND cc DNY

---

### Autonomous Message

---

Not applicable.

## Explanation Of Parameters

**MON** - Monitor

**TO** - To

**[s]abc** - 3- or 4-digit non-hierarchical FROM NPC number

**[t]ghi** - 3- or 4-digit non-hierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |



If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number  
**wxkqr** - Hierarchical TO NPC number

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

The valid values are listed below:

DE type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

Unit    Module NPC  
**01-16 1-4    01-40**

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

For an unmapped TO termination, or a backbone leg (BBL) without return, the FROM NPC number will be shown as zeroes.

**ddd** - FROM Channel number

**jjj, kkk, lll**

- TO Channel numbers

**ppp** - First TO Channel number causing denial

kkk is shown as an example of a range jjj-kkk of TO channels, and lll is an example of an item on a list of TO channels.

001 through 024

The FROM channel ddd will be '---' for circuits not involved in this test session. For unmapped TO channel(s) or a BBL without return, ddd will be '000' in the corresponding channel position(s). If channel jjj is mapped to a channel 000, the circuit can only be tested as N = 1, and the corresponding FROM channel ddd will be '000'.

**tc** - Trunk conditioning

For mapped circuits, regardless of what is specified here, the circuit's tc will be used but not shown in the output response.

For unmapped circuits, if the static tc was not furnished when the TG was provisioned, it must be dynamically specified in this command or the test access will be denied. A dynamic tc will override any static tc. The effective tc will be used for all channels under test, and will be shown in the output.

**TG** - Test-access Group

**mmm** - Test-access Group number (001 through 400)

The TG is designated as in GRTH::TG,NPCTG and must have the same width as the number of channels specified in this message.

**SG** - Signaling

**g** - Signaling mode of the TG

*g*      *Explanation*

T      All channels are Transparent (TRSP)

R      One or more channels is robbed-bit or non-TRSP

**CGA** - Carrier group alarm

**PBA** - Primary block alarm

**ftb** - CGA or PBA state

f - FROM CGA or PBA state

*f*      *Explanation*

F      FROM NPC is in CGA or PBA

0      FROM NPC is not in CGA or PBA

t - TO CGA or PBA state

*t*      *Explanation*

T      TO NPC is in CGA or PBA

0      TO NPC is not in CGA or PBA

b - TG digroup CGA or PBA state

*b*      *Explanation*

B      NPCTG(s) supporting both bundles in CGA or PBA

E      East-bundle NPCTG in CGA or PBA

W      West-bundle NPCTG in CGA or PBA

0      NPCTG(s) not in CGA or PBA

**RDC** - Red circuit

The cross-connection tested is a red circuit.

**CUS** - Customer

The cross-connection tested is a customer-controlled circuit.

**ONEWAY** - One-way

The cross-connection tested is a one-way circuit.

**BCAST** - Broadcast

The cross-connection tested is part of a broadcast circuit.

**TLA** - Terminate and leave active

**S**

- Termination state of the circuit

| <i>s</i> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|   |                           |
|---|---------------------------|
| R | All channels are released |
|---|---------------------------|

|   |                                         |
|---|-----------------------------------------|
| F | At least one FROM channel is terminated |
|---|-----------------------------------------|

|   |                                       |
|---|---------------------------------------|
| T | At least one TO channel is terminated |
|---|---------------------------------------|

|   |                                                |
|---|------------------------------------------------|
| B | At least one FROM and TO channel is terminated |
|---|------------------------------------------------|

**UMPD** - Unmapped

The circuit under test is unmapped.

**COND** - Condition

**cc** - Hexadecimal condition code

| <b>cc</b> | <i>Explanation</i> |
|-----------|--------------------|
|-----------|--------------------|

|           |                |
|-----------|----------------|
| <b>26</b> | NPC type error |
|-----------|----------------|

|           |                                                            |
|-----------|------------------------------------------------------------|
| <b>12</b> | Active CCN side not IS or failed or pested or hardware OOS |
|-----------|------------------------------------------------------------|

|           |                                              |
|-----------|----------------------------------------------|
| <b>13</b> | UNIT not equipped, not in service, or failed |
|-----------|----------------------------------------------|

|           |                                                                       |
|-----------|-----------------------------------------------------------------------|
| <b>14</b> | CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS |
|-----------|-----------------------------------------------------------------------|

|           |                                              |
|-----------|----------------------------------------------|
| <b>15</b> | FTMI not equipped, not in service, or failed |
|-----------|----------------------------------------------|

|           |                                                                     |
|-----------|---------------------------------------------------------------------|
| <b>16</b> | FC not eqd, not IS, or failed or inactive side FC not eqd or not IS |
|-----------|---------------------------------------------------------------------|

|           |                                                                       |
|-----------|-----------------------------------------------------------------------|
| <b>17</b> | TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS |
|-----------|-----------------------------------------------------------------------|

|           |                                                      |
|-----------|------------------------------------------------------|
| <b>1A</b> | Required FLI not equipped, not in service, or failed |
|-----------|------------------------------------------------------|

|           |                                                      |
|-----------|------------------------------------------------------|
| <b>1B</b> | Required MXR not equipped, not in service, or failed |
|-----------|------------------------------------------------------|

|           |                                                                        |
|-----------|------------------------------------------------------------------------|
| <b>1C</b> | Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS |
|-----------|------------------------------------------------------------------------|

|           |                                                      |
|-----------|------------------------------------------------------|
| <b>1D</b> | Required MIU not equipped, not in service, or failed |
|-----------|------------------------------------------------------|

|           |                                              |
|-----------|----------------------------------------------|
| <b>E0</b> | ETSI not equipped, not in service, or failed |
|-----------|----------------------------------------------|

|           |                            |
|-----------|----------------------------|
| <b>45</b> | NPC not provisioned as DGA |
|-----------|----------------------------|

|           |                                 |
|-----------|---------------------------------|
| <b>46</b> | virtual SLC NPC not provisioned |
|-----------|---------------------------------|

|           |                        |
|-----------|------------------------|
| <b>47</b> | Invalid channel number |
|-----------|------------------------|

|           |                                     |
|-----------|-------------------------------------|
| <b>48</b> | Invalid SLC Mode-III channel number |
|-----------|-------------------------------------|

**cc**    *Explanation*

- 49**    test group unequipped
- 4A**    channel part of a TP or TG
- 4B**    channel already under test
- 4C**    BCON BBL has one or more legs under test
- 4D**    Gateway test access not supported
- 4F**    inconsistent BCON width for test access
- 50**    invalid channel designation for BCON
- 51**    TG width incompatible with circuit
- 52**    FDL selected with width not 1
- 57**    Designated TG or circuit to be tested in process of being rolled
- 59**    Invalid TC specification
- 5A**    NPC not in service or failed
- 5B**    channel is OCON in opposite direction
- 5C**    Inconsistent or invalid circuit type for Nx64Kbit TA
- 5D**    Inconsistent Signaling on CEPT NPCTGs
- 5E**    invalid test access mode
- 5F**    input channel out of range (SLC not supported)
- 61**    not all FROM channels on same NPC
- 95**    TG East/West type inconsistent with each other or circuit
- A9**    Circuits TCONed itself cannot be UTST

## **TTST,MON,TO,TP**

### **TWO-WAY TEST ACCESS, MONITOR**

#### **Explanation Of Command**

This message can be used to do one of two things:

1. To set up a previously unassigned test port to monitor a particular termination.
2. To change a previously assigned test port to monitor mode.

If the test port is already in the monitor mode, DACS II will deny the execution of the message.

The trunk conditioning (**tc**) specified in this command applies only when accessing an unmapped termination. For an access to a mapped circuit, **tc** is adopted from the circuit being accessed and, therefore, will be ignored if specified.

The DACS II test ports are either static or dynamic. A test port is defined as static when trunk conditioning is specified in a test port provisioning command otherwise it is a dynamic test port. If this test port is static, trunk conditioning must be specified.

If the test port is in the split mode, do not specify the TO NPC number.

#### **Command**

#### **Nonhierarchical**

[I.21001]

TTST:FRM xy,SEQ ww:MON[,TO [t]ghijjj][,<tc>],TP kk!

### **Hierarchical**

---

[I.21001]

TTST:FRM xy,SEQ ww:MON[,TO uvmnpjjj][,<tc>],TP kk!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.21001]

M hh:mm:ss xy,ww n[vv] TTST MON [s]abcddd,[t]ghijjj TP kk \\  
2 LN MSG:  
<tc> SG g CGA(ftp)[ RDC][ CUS][ ONEWAY] TLA s COMPL

[O.21002]

M hh:mm:ss xy,ww n[vv] TTST MON [t]ghijjj TP kk SG g \\  
2 LN MSG:  
<tc> CGA(ftp) UMPD COMPL

### **Hierarchical**

---

[O.21001]

M hh:mm:ss xy,ww n[vv] TTST MON wxkqrddd,uvmnpjjj TP kk \\  
2 LN MSG:  
<tc> SG g CGA(ftp)[ RDC][ CUS][ ONEWAY] TLA s COMPL

[O.21002]

M hh:mm:ss xy,ww n[vv] TTST MON uvmnpjjj TP kk SG g \\  
2 LN MSG:  
<tc> CGA(ftp) UMPD COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.21001.01]

M hh:mm:ss xy,ww n[vv] TTST TP kk <reason> DNY

[O.21001.02]

M hh:mm:ss xy,ww n[vv] TTST MON[ [t]ghijjj] TP kk 2 LN MSG:  
[<tc> ]<reason> DNY

[O.21001.03]

M hh:mm:ss xy,ww n[vv] TTST MON [t]ghijjj TP kk [s] \  
klmnnn,[t]pqrsss ASGN DNY

[O.21001.04]

M hh:mm:ss xy,ww n[vv] TTST MON [s]abcddd,[t]ghijjj TP \  
kk <reason> DNY

### **Hierarchical**

---

[O.21001.01]

M hh:mm:ss xy,ww n[vv] TTST TP kk <reason> DNY

[O.21001.02]

M hh:mm:ss xy,ww n[vv] TTST MON[ uvmnpjjj] TP kk \  
2 LN MSG:  
[<tc> ]<reason> DNY

[O.21001.03]

M hh:mm:ss xy,ww n[vv] TTST MON uvmnpjjj TP kk edhfgnnn, \  
opjstsss ASGN DNY

[O.21001.04]

M hh:mm:ss xy,ww n[vv] TTST MON wxkqrddd,uvmnpjjj TP \  
kk <reason> DNY

### **Autonomous Message**

---

Not applicable.



## Explanation Of Parameters

**TP** - Test port

**kk** - Test port number (01 through 96)

A test port is mapped to predesignated channels of a network processing circuit for test ports (NPCTP) during the provisioning of that test port.

Only nonSLC® NPC types can be provisioned as an NPCTP.

For the mapping between the test ports and the channels of the test NPCs, see the GRTH::TP Message

The DACS II test ports are either static or dynamic, as defined in the GRTH::TP message.

If the test port is in the split mode, TO [t]ghijj may not be specified.

In a gateway frame NPC types that have been provisioned for channel associated signaling (CAS) can also be provisioned as an NPCTP.

**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |

| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

| Unit<br>1  | Unit<br>2  | Unit<br>3  | Unit<br>4  | Unit<br>5  | Unit<br>6  |
|------------|------------|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| <b>001</b> | <b>161</b> | <b>321</b> | <b>481</b> | <b>641</b> | <b>801</b> |
| <b>021</b> | <b>181</b> | <b>341</b> | <b>501</b> | <b>661</b> | <b>821</b> |
| <b>041</b> | <b>201</b> | <b>361</b> | <b>521</b> | <b>681</b> | <b>841</b> |
| <b>061</b> | <b>221</b> | <b>381</b> | <b>541</b> | <b>701</b> | <b>861</b> |
| <b>081</b> | <b>241</b> | <b>401</b> | <b>561</b> | <b>721</b> | <b>881</b> |
| <b>101</b> | <b>261</b> | <b>421</b> | <b>581</b> | <b>741</b> | <b>901</b> |
| <b>121</b> | <b>281</b> | <b>441</b> | <b>601</b> | <b>761</b> | <b>921</b> |
| <b>141</b> | <b>301</b> | <b>461</b> | <b>621</b> | <b>781</b> | <b>941</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

| Unit<br>1   | Unit<br>2   | Unit<br>3   | Unit<br>4   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0001</b> | <b>0161</b> | <b>0321</b> | <b>0481</b> |
| <b>0021</b> | <b>0181</b> | <b>0341</b> | <b>0501</b> |
| <b>0041</b> | <b>0201</b> | <b>0361</b> | <b>0521</b> |
| <b>0061</b> | <b>0221</b> | <b>0381</b> | <b>0541</b> |
| <b>0081</b> | <b>0241</b> | <b>0401</b> | <b>0561</b> |
| <b>0101</b> | <b>0261</b> | <b>0421</b> | <b>0581</b> |
| <b>0121</b> | <b>0281</b> | <b>0441</b> | <b>0601</b> |
| <b>0141</b> | <b>0301</b> | <b>0461</b> | <b>0621</b> |

| Unit<br>5   | Unit<br>6   | Unit<br>7   | Unit<br>8   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0641</b> | <b>0801</b> | <b>0961</b> | <b>1121</b> |
| <b>0661</b> | <b>0821</b> | <b>0981</b> | <b>1141</b> |
| <b>0681</b> | <b>0841</b> | <b>1001</b> | <b>1161</b> |
| <b>0701</b> | <b>0861</b> | <b>1021</b> | <b>1181</b> |
| <b>0721</b> | <b>0881</b> | <b>1041</b> | <b>1201</b> |
| <b>0741</b> | <b>0901</b> | <b>1061</b> | <b>1221</b> |
| <b>0761</b> | <b>0921</b> | <b>1081</b> | <b>1241</b> |
| <b>0781</b> | <b>0941</b> | <b>1101</b> | <b>1261</b> |
| Unit<br>9   | Unit<br>10  | Unit<br>11  | Unit<br>12  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1281</b> | <b>1441</b> | <b>1601</b> | <b>1761</b> |
| <b>1301</b> | <b>1461</b> | <b>1621</b> | <b>1781</b> |
| <b>1321</b> | <b>1481</b> | <b>1641</b> | <b>1801</b> |
| <b>1341</b> | <b>1501</b> | <b>1661</b> | <b>1821</b> |
| <b>1361</b> | <b>1521</b> | <b>1681</b> | <b>1841</b> |
| <b>1381</b> | <b>1541</b> | <b>1701</b> | <b>1861</b> |
| <b>1401</b> | <b>1561</b> | <b>1721</b> | <b>1881</b> |
| <b>1421</b> | <b>1581</b> | <b>1741</b> | <b>1901</b> |
| Unit<br>13  | Unit<br>14  | Unit<br>15  | Unit<br>16  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1921</b> | <b>2081</b> | <b>2241</b> | <b>2401</b> |
| <b>1941</b> | <b>2101</b> | <b>2261</b> | <b>2421</b> |
| <b>1961</b> | <b>2121</b> | <b>2281</b> | <b>2441</b> |
| <b>1981</b> | <b>2141</b> | <b>2301</b> | <b>2461</b> |
| <b>2001</b> | <b>2161</b> | <b>2321</b> | <b>2481</b> |
| <b>2021</b> | <b>2181</b> | <b>2341</b> | <b>2501</b> |
| <b>2041</b> | <b>2201</b> | <b>2361</b> | <b>2521</b> |
| <b>2061</b> | <b>2221</b> | <b>2381</b> | <b>2541</b> |

**uvmnp** - Hierarchical TO NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The valid values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

MB, SR, and MJ type numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

| Unit         | Module     | NPC       |
|--------------|------------|-----------|
| <b>01-16</b> | <b>1-8</b> | <b>01</b> |

**jjj** - TO Channel number

Channel numbers  
001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

Conference numbers  
001-085 (MB NPC)

If channel **jjj** is an FDL (Facility Data Link), then **jjj** = 000.

**tc** - Trunk conditioning

If the tc option was not furnished in the test port provisioning command, it must be furnished in this input command to provide a test connection for unmapped circuits; otherwise, the test access will be denied.

Represents the desired signaling and insertion word to be applied when a failure occurs. A trunk conditioning specification consists of a combination of a signaling specification followed by an insertion word specification. For example, TRSP,IW X'pq (input form).

tc cannot be specified if jjj = 000.

**Note:** For mapped terminations, tc takes on the mapped cross-connect tc value and overrides any tc option provided in the input command.

For unmapped terminations, trunk conditioning will be applied as follows:

If tc is omitted from this command and was omitted in the test port provisioning command, the command will be denied.

If tc is omitted from this command but was provided in the test port provisioning command, the tc value provided in the provisioning command is applied.

If tc is provided in this command, it overrides the value, (if provided), in the test port provisioning command.

| <i>signaling</i>     | <i>Explanation</i>                   |
|----------------------|--------------------------------------|
| TC(ijkl,mnop)        | 2-way, 4-state signaling in binary.  |
| TC(ijklmnop,qrstuvw) | 2-way, 16-state signaling in binary. |
| TC(X'ab,X'cd)        | 2-way, 16-state in hexadecimal.      |
| TRSP                 | Transparent, no signaling.           |

| <i>insertion word</i> | <i>Explanation</i>                                                                                                                       |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| IW X'pq               | The 8-bit pattern corresponding to the hexadecimal value of pq will be inserted in the downstream direction of a failure on either line. |
| TRB                   | Standard trouble code, equal to IW X'E4.                                                                                                 |
| MUX                   | MUX out of sync code, equal to IW X'1A.                                                                                                  |

For 4-state signaling, the A/B signaling bits of both test port channels are specified by ijkl for the receive time slot interchange (RTSI), and by mnop for the transmit time slot interchange (TTSI).

For 16-state signaling, the A/B/C/D signaling bits of both test port channels are specified by efghijkl (or hexadecimal digits ab) for the RTSI, and by mnopqrst (or hexadecimal digits cd) for the TTSI.

- [s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number
- [s]klm** - The 3- or 4-digit nonhierarchical FROM NPC number
- [t]pqr** - The 3- or 4-digit nonhierarchical TO NPC number

- uvmnp** - Hierarchical TO NPC number
- wxkqr** - Hierarchical FROM NPC number.

Supports the termination that is cross-connected to channel ghijj.

- [s]klmnnn**
  - Nonhierarchical format termination being tested as FROM on test port kk otherwise the same as [s]abcddd. If this field is all zeroes, test port kk is assigned to an unmapped termination.

- edhfgnnn**
  - Hierarchical format of [s]klmnnn

- pqrsss** - Nonhierarchical format termination being tested as TO on test port kk; otherwise, the same as abcd.

- opjstsss**
  - Hierarchical format of [t]pqrsss

- ddd** - FROM channel number of the termination that is cross-connected to
- nnn** - FROM channel number of the termination that is cross-connected to channel [t]ghi-jjj.

- sss** - TO channel number

**SG** - Signaling

**g** - Signaling mode of test port kk

*g*      *Explanation*

R      Robbed Bit Signaling

T      Transparent

**CGA** - Carrier group alarm

**ftp** - CGA state

f - FROM CGA state

*f*      *Explanation*

F      FROM NPC is in CGA

0      FROM NPC is not in CGA

t - TO CGA state

*t*      *Explanation*

T      TO NPC is in CGA

0      TO NPC is not in CGA

p - Test port digroup CGA state

*p*      *Explanation*

P      Test port NPC is in CGA

0      Test port NPC is not in CGA

**RDC** - Red circuit

**CUS** - Customer

The cross-connection tested is a customer controlled circuit.

**ONEWAY** - One-way

The cross-connection tested is a one-way circuit.

**TLA** - Terminate and leave activate

**s**

- Termination state of the circuit

*s*      *Explanation*



R RELEASED. Neither side is terminated  
F FROM side is terminated  
T TO side is terminated  
B BOTH sides are terminated

**ASGN** - Assigned

The test port is already assigned to another termination, denoted by [s]klmnnn,[t]pqrsss (or edhfgnnn,opjstsss)

**UMPD** - Unmapped

**reason** - Reason for denial

**cc** - Hexadecimal condition code

**cc st Explanation**

**D1 SCERR** TO NPC is not provisioned as DGA  
**D4 SCERR** Corresponding NPC for TO virtual channel is not provisioned  
**D7 SCERR** Invalid TO channel number

**st Explanation**

**BADCCB** CCB OOS or failed  
**BADCCN** CCN OOS or failed  
**BADDSPI** DSPI OOS or failed  
**BADFC** FC OOS or failed  
**BADFLI** FLI OOS or failed  
**BADFMT** FMT (Formatter) OOS or failed  
**BADFTMI** FTMI OOS or failed  
**BADMIU** MIU OOS or failed  
**BADMXR** MXR OOS or failed  
**BADTSI** TSI OOS or failed  
**BCAST** The TO side is part of a broadcast circuit  
**C TOO DEEP** DMB concatenations go too deep (for more than 6 level)  
**CBIT** The TO side is part of a c-bit cross-connection  
**CWNOT1** Conference width is not equal to 1 (for virtual conferences)  
**F ASGN** The FROM side NPC, wx-k-qr, is assigned  
**F FAIL** FROM side NPC is marked failed  
**F OOS** FROM side NPC (abc) is out of service  
**F UEQD** The DACS unit supporting the FROM termination is out-of-service or failed  
**FAIL** Test port Group NPC failed  
**IMPR TC** Improper trunk conditioning specification  
**INERR** Input error  
**INV CKT TYPE** TO termination has invalid circuit type for test access

| <b>st</b>         | <i>Explanation</i>                                         |
|-------------------|------------------------------------------------------------|
| <b>NA</b>         | DACS CCN or UNIT involved cannot perform the cross-connect |
| <b>OOS</b>        | Test port Group NPC out of service                         |
| <b>SG COND 02</b> | Test port is dynamic                                       |
| <b>T ASGN</b>     | The TO side NPC is assigned                                |
| <b>T CLR</b>      | The TO NPC is a clear-DS1 NPC                              |
| <b>T FAIL</b>     | TO side NPC is marked failed                               |
| <b>T OOS</b>      | TO side NPC is Out Of Service                              |
| <b>T UEQD</b>     | TO side NPC is Unequipped                                  |
| <b>T UTST</b>     | TO termination is under test                               |
| <b>TG</b>         |                                                            |
| <b>TP</b>         | The TO termination is part of a test port                  |
| <b>T_DCLU</b>     | Attempt to test a locally switched channel                 |
| <b>UEQD</b>       | Test port kk is unequipped                                 |
| <b>UTST</b>       | Under Test                                                 |

## **TTST,RT,DGA,DGB,DGC,DGD,DGP,LLB,TO**

### **TWO-WAY TEST ACCESS LINE LOOPBACK**

#### **Explanation Of Command**

This message will enable the users to initiate, terminate, allow or inhibit a line loopback (LLB) towards the RT or the DL (DCLU) on one of the digroups of the specified bank, optionally.

If neither the TO nor the FROM option is specified, the system will take the TO option as the default value and will respond accordingly.

The TO option will enable the user to program the DACS II to take appropriate action; that is, INI, TRM, ALW or INH, with regard to sending a far-end loopback (FELP) message towards the RT or the DL.

The FROM option will enable the user to program the DACS II to take appropriate action; that is, INH or ALW, in the case where a FELP is received from an RT or DL.

If the FROM keyword is used, the INI or TERM options are not allowed.

Note that an autonomous message will be reported if a loopback is initiated (terminated) by the remote terminal.

#### **Command**

[I.26101]

TTST:FRM xy,SEQ ww:RT ffff,{DGA|DGB|DGC|DGD|DGP},\  
LLB[, {TO|FROM}], {INI|TRM|ALW|INH}!

### **Completion Message**

---

[O.26101]

M hh:mm:ss xy,ww n[vv] TTST RT ffff {DGA|DGB|DGC|DGD|\  
DGP} LLB {TO|FROM} {INI|TRM|ALW|INH} COMPL

### **Denial Message**

---

[O.26101.01]

M hh:mm:ss xy,ww n[vv] TTST RT ffff {DGA|DGB|DGC|\  
DGD|DGP} LLB[ {TO|FROM}] {INI|TRM|ALW|INH} COND cc DNY

### **Autonomous Message**

---

[O.26101]

I hh:mm:ss xy,ww n[vv] TTST RT ffff {DGA|DGB|DGC|DGD|DGP} \  
LLB FROM {INI|TRM} COMPL

### **Explanation Of Parameters**

---

**LLB** - Line loopback

**INI** - Initiate LLB

**TRM** - Terminate LLB

**ALW** - Allow LLB

**INH** - Inhibit LLB

**RT** - Remote Terminal

**ffff** - Bank identification number (0000 - 9999)

**DGA** - Digroup A of the bank

**DGB** - Digroup B of the bank

**DGC** - Digroup C of the bank

**DGD** - Digroup D of the bank

**DGP** - Digroup P of the bank

- TO** - Allows the loopback message to be sent toward the RT
- FROM** - Allows the loopback message to be received from the RT
- COND** - Condition
- cc** - Hexadecimal condition code

**cc** *Explanation*

- 35** NPC has active circuit
- 6B** Operation mode and digroup name don't match
- 7E** Bank id number not found
- 8B** Digroup name and bank id don't match
- A1** Loop back inhibited for digroup
- A2** The requested digroup is carrying service
- A3** LLB not initiated
- A5** Autonomous loopback is active on DGA

## **TTST,SPL,TG**

### **NX64Kbit/s TWO-WAY TEST ACCESS, SPLIT**

#### **Explanation Of Command**

This command is used to split each direction of transmission of an Nx64Kbit/s circuit that is currently under test access in monitor mode.

**Note:** If the test-access group is connected to an unmapped Nx64Kbit/s termination, this command connects both directions of the unmapped termination to the test-access group's west bundle.

#### **Command**

[I.23021]

TTST:FRM xy,SEQ ww:SPL,TG mmm!

#### **Completion Message**

#### **Nonhierarchical**

[O.23021]

```
M hh:mm:ss xy,ww n[vv] TTST SPL TG mmm FROM [s]abc TO [t]ghi  \
5 LN MSG:
SG g CGA(ftb)[ RDC][ CUS][ ONEWAY] {TLA s|BCAST|UMPD <tc>}
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd COMPL
```

## Hierarchical

[O.23021]

M hh:mm:ss xy,ww n[vv] TTST SPL TG mmm FROM uvmnp TO wxkqr \\  
5 LN MSG:  
SG g CGA(ftb)[ RDC][ CUS][ ONEWAY] {TLA s|BCAST|UMPD <tc>}  
ddd ddd ddd ddd ddd ddd ddd  
ddd ddd ddd ddd ddd ddd ddd  
ddd ddd ddd ddd ddd ddd ddd COMPL

## Denial Message

[O.23021.01]

M hh:mm:ss xy,ww n[vv] TTST SPL TG mmm COND cc DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**TG** - Test-access group

**mmm** - Test-access Group number (001 through 400)

The TG is designated as in message 31421

**SPL** - Split

**[s]abc** - 3- or 4-digit non-hierarchical FROM NPC number

**[t]ghi** - 3- or 4-digit non-hierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |



|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                              |                              |                              |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |

| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number  
**wxkqr** - Hierarchical TO NPC number

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

The valid values are listed below:

DE type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM Channel numbers

001 through 024

The FROM channel ddd will be '---' for circuits not involved in this test session. For unmapped TO channel(s) or a BBL without return, ddd will be '000' in the corresponding channel position(s). If TO channel is mapped to a channel 000, the circuit can only be tested as N = 1, the corresponding FROM channel ddd will be '000'.

**tc** - Trunk conditioning

For mapped circuits, <tc> will be omitted.

For unmapped circuits, the effective <tc> will be output.

**SG** - Signaling

**g** - Signaling mode of the TG

*g Explanation*

T All channels are Transparent (TRSP)

R One or more channels is robbed-bit or non-TRSP

**CGA** - Carrier group alarm

**PBA** - Primary block alarm

**ftb** - CGA or PBA state

f - FROM CGA or PBA state

*f Explanation*

F FROM NPC is in CGA or PBA

0 FROM NPC is not in CGA or PBA

t - TO CGA or PBA state

*t Explanation*

T TO NPC is in CGA or PBA

0 TO NPC is not in CGA or PBA

b - TG digroup CGA or PBA state

*b Explanation*

E East-bundle NPCTG in CGA or PBA

W West-bundle NPCTG in CGA or PBA

B NPCTG(s) supporting both bundles in CGA or PBA

0 NPCTG(s) not in CGA or PBA

**RDC** - Red circuit

The cross-connection tested is a red circuit.

**CUS** - Customer

The cross-connection tested is a customer-controlled circuit.

**TLA** - Terminate and leave active

**S**

- Termination state of the circuit

*s Explanation*

R All channels are released

F One or more FROM channel is terminated

T One or more TO channel is terminated

B One or more of FROM and TO channels are terminated

**COND cc**

- Condition code

**cc** - Hexadecimal condition code

**cc** *Explanation*

**5A** NPC not in service or failed

**5E** invalid test access mode

## **TTST,SPL,TP**

### **TWO-WAY TEST ACCESS**

#### **Explanation Of Command**

This message splits a mapped circuit in the normal circuit state. Also, in the normal circuit state, it connects both directions of an unmapped termination to test port **kk** (01 through 48). If the test port is connected to an unmapped termination, this command will connect both directions of an unmapped termination to the test port. When this command is used with the subrate feature for a circuit termination, the system response will be a subrate test access message.

#### **Command**

[I.23001]

TTST:FRM xy,SEQ ww:SPL,TP kk!

#### **Completion Message**

##### **Nonhierarchical**

[O.23001]

M hh:mm:ss xy,ww n[vv] TTST SPL [s]abcddd,[t]ghijjj \  
[ RDC] [ CUS] TP kk[ TLA s] COMPL

##### **Hierarchical**

[O.23001]

M hh:mm:ss xy,ww n[vv] TTST SPL wxkqrddd,uvmnpjjj \  
[ RDC] [ CUS] TP kk[ TLA s] COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.23001.02]

M hh:mm:ss xy,ww n[vv] TTST SPL [s]abcddd,[t]ghijjj \  
TP kk <st> DNY

#### **Hierarchical**

---

[O.23001.02]

M hh:mm:ss xy,ww n[vv] TTST SPL wxkqrddd,uvmnpjjj \  
TP kk <st> DNY

#### **Common**

---

[O.23001.01]

M hh:mm:ss xy,ww n[vv] TTST SPL TP kk <st> DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**TP** - Test port

**kk** - Test port number (01 through 96)

The test port is mapped to predesignated channels of a network processing circuit for test ports (NPCTP) during the provisioning of that test port. The NPC types that can be provisioned as NPCTP are all domestic non-SLC NPC types and all CEPT types that have been provisioned for channel associated signaling (CAS). For the mapping between the test ports and the channels of the test NPCs, see Message No. 31411.

The DACS II test ports are either static or dynamic, as defined in Message No. I.31411.

**SPL** - Split

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number  
**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |



If NPC numbers are expressed in three digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

| Unit<br>1  | Unit<br>2  | Unit<br>3  | Unit<br>4  | Unit<br>5  | Unit<br>6  |
|------------|------------|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| <b>001</b> | <b>161</b> | <b>321</b> | <b>481</b> | <b>641</b> | <b>801</b> |
| <b>021</b> | <b>181</b> | <b>341</b> | <b>501</b> | <b>661</b> | <b>821</b> |
| <b>041</b> | <b>201</b> | <b>361</b> | <b>521</b> | <b>681</b> | <b>841</b> |
| <b>061</b> | <b>221</b> | <b>381</b> | <b>541</b> | <b>701</b> | <b>861</b> |
| <b>081</b> | <b>241</b> | <b>401</b> | <b>561</b> | <b>721</b> | <b>881</b> |
| <b>101</b> | <b>261</b> | <b>421</b> | <b>581</b> | <b>741</b> | <b>901</b> |
| <b>121</b> | <b>281</b> | <b>441</b> | <b>601</b> | <b>761</b> | <b>921</b> |
| <b>141</b> | <b>301</b> | <b>461</b> | <b>621</b> | <b>781</b> | <b>941</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

| Unit<br>1   | Unit<br>2   | Unit<br>3   | Unit<br>4   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0001</b> | <b>0161</b> | <b>0321</b> | <b>0481</b> |
| <b>0021</b> | <b>0181</b> | <b>0341</b> | <b>0501</b> |
| <b>0041</b> | <b>0201</b> | <b>0361</b> | <b>0521</b> |
| <b>0061</b> | <b>0221</b> | <b>0381</b> | <b>0541</b> |
| <b>0081</b> | <b>0241</b> | <b>0401</b> | <b>0561</b> |
| <b>0101</b> | <b>0261</b> | <b>0421</b> | <b>0581</b> |
| <b>0121</b> | <b>0281</b> | <b>0441</b> | <b>0601</b> |
| <b>0141</b> | <b>0301</b> | <b>0461</b> | <b>0621</b> |
| Unit<br>5   | Unit<br>6   | Unit<br>7   | Unit<br>8   |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0641</b> | <b>0801</b> | <b>0961</b> | <b>1121</b> |
| <b>0661</b> | <b>0821</b> | <b>0981</b> | <b>1141</b> |
| <b>0681</b> | <b>0841</b> | <b>1001</b> | <b>1161</b> |
| <b>0701</b> | <b>0861</b> | <b>1021</b> | <b>1181</b> |
| <b>0721</b> | <b>0881</b> | <b>1041</b> | <b>1201</b> |
| <b>0741</b> | <b>0901</b> | <b>1061</b> | <b>1221</b> |
| <b>0761</b> | <b>0921</b> | <b>1081</b> | <b>1241</b> |
| <b>0781</b> | <b>0941</b> | <b>1101</b> | <b>1261</b> |

| Unit<br>9   | Unit<br>10  | Unit<br>11  | Unit<br>12  |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1281</b> | <b>1441</b> | <b>1601</b> | <b>1761</b> |
| <b>1301</b> | <b>1461</b> | <b>1621</b> | <b>1781</b> |
| <b>1321</b> | <b>1481</b> | <b>1641</b> | <b>1801</b> |
| <b>1341</b> | <b>1501</b> | <b>1661</b> | <b>1821</b> |
| <b>1361</b> | <b>1521</b> | <b>1681</b> | <b>1841</b> |
| <b>1381</b> | <b>1541</b> | <b>1701</b> | <b>1861</b> |
| <b>1401</b> | <b>1561</b> | <b>1721</b> | <b>1881</b> |
| <b>1421</b> | <b>1581</b> | <b>1741</b> | <b>1901</b> |
| <br>        |             |             |             |
| Unit<br>13  | Unit<br>14  | Unit<br>15  | Unit<br>16  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1921</b> | <b>2081</b> | <b>2241</b> | <b>2401</b> |
| <b>1941</b> | <b>2101</b> | <b>2261</b> | <b>2421</b> |
| <b>1961</b> | <b>2121</b> | <b>2281</b> | <b>2441</b> |
| <b>1981</b> | <b>2141</b> | <b>2301</b> | <b>2461</b> |
| <b>2001</b> | <b>2161</b> | <b>2321</b> | <b>2481</b> |
| <b>2021</b> | <b>2181</b> | <b>2341</b> | <b>2501</b> |
| <b>2041</b> | <b>2201</b> | <b>2361</b> | <b>2521</b> |
| <b>2061</b> | <b>2221</b> | <b>2381</b> | <b>2541</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uv****mn****p** - Hierarchical TO NPC number  
**wx****kqr** - Hierarchical FROM NPC number

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

The valid values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

MB, SR, and MJ type numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

|              |            |           |
|--------------|------------|-----------|
| Unit         | Module     | NPC       |
| <b>01-16</b> | <b>1-8</b> | <b>01</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM channel number  
**jjj** - TO channel number

The valid values are:

Channel numbers  
001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

Conference numbers  
001-085 (MB NPC)

**NOTE:** If the field [s]abcd (or wxkqrddd in Hierarchical addressing) is all zeroes, then this test port is assigned to a unmapped termination.

**CUS** - Customer  
Customer-controlled circuit.

**RDC** - Red circuit

**TLA** - Terminate and leave activate

**s** - Termination state of the circuit:

|   |                                      |
|---|--------------------------------------|
| s | Explanation                          |
| R | RELEASED. Neither side is terminated |
| F | FROM side is terminated              |
| T | TO side is terminated                |
| B | BOTH sides are terminated            |

**st** - Status

| <b>st</b>        | <i>Explanation</i>                                         |
|------------------|------------------------------------------------------------|
| <b>F FAIL</b>    | FROM side NPC is marked failed                             |
| <b>F OOS</b>     | FROM side NPC (abc) is out of service                      |
| <b>MCOND</b>     | An entity in the network is OOS or failed                  |
| <b>NA</b>        | DACS CCN or UNIT involved cannot perform the cross-connect |
| <b>NMON</b>      | Not Monitor, the testport is not currently in monitor mode |
| <b>SIG TS NS</b> | Signaling timeslot (CAS TS16) cannot be split              |
| <b>T FAIL</b>    | TO side NPC is marked failed                               |
| <b>T OOS</b>     | TO side NPC is Out Of Service                              |

## **TTST,TGR,TG,OOS**

### **NX64Kbit/s TWO-WAY TEST ACCESS, TEST- ACCESS GROUP RELEASE**

#### **Explanation Of Command**

This command is used to release one or more currently active test-access groups, and restore any circuits under test to their normal, terminated, or unmapped state. The OOS keyword is required to release a test-access group in two cases:

1. The associated circuit under test is out-of-service.
2. One of both of the NPCs supporting the test-access group is out-of-service.

Where more than one test-access group is specified in the input command the completion message will list the test-access groups in ascending order by the test-access group number and provide information for all test-access groups. If an attempt is made to release a range of test-access groups and no test-access groups in the range have been provisioned the release will be denied. The output for test-access groups testing in other monitor or split modes is printed with a mapping of channels.

When an administrative link fails, all test-access groups associated with that link will be released; automatically. All circuits under test by those TGs will be restored to their normal state; mapped or unmapped. Any termination state entered before or during the test access will remain in effect.

If a failure in an entity involved in an autonomous test-access group release causes the release to fail the release may be performed manually by this command.

#### **Command**

[I.27021]

**TTST:FRM xy,SEQ ww:TGR,TG mmm[-nnn][,OOS]!**

## **Completion Message**

---

### **Nonhierarchical**

---

[O.27021]

M hh:mm:ss xy,ww n[vv] TTST TGR TG mmm NN[ OOS] 5 LN MSG:  
FROM [s]abc TO [t]ghi[ RDC][ CUS][ TLA s][ NTR]  
ddd ddd ddd ddd ddd ddd ddd ddd  
ddd ddd ddd ddd ddd ddd ddd ddd  
ddd ddd ddd ddd ddd ddd ddd ddd {EOM|COMPL}

or

M hh:mm:ss xy,ww n[vv] TTST TGR TG mmm[-nnn] UEQD {EOM|COMPL}

or

M hh:mm:ss xy,ww n[vv] TTST TGR TG mmm NN {UASGN|LPD} {EOM|COMPL}

or

M hh:mm:ss xy,ww n[vv] TTST TGR TG mmm NN HUB [s]abcd,\  
[t]ghijjj[ OOS] {EOM|COMPL}

## **Hierarchical**

---

[O.27021]

M hh:mm:ss xy,ww n[vv] TTST TGR TG mmm NN[ OOS] 5 LN MSG:  
FROM uvmnp TO wxkqr[ RDC][ CUS][ TLA s][ NTR]  
ddd ddd ddd ddd ddd ddd ddd  
ddd ddd ddd ddd ddd ddd ddd  
ddd ddd ddd ddd ddd ddd ddd {EOM|COMPL}

or

M hh:mm:ss xy,ww n[vv] TTST TGR TG mmm[-nnn] UEQD {EOM|COMPL}

or

M hh:mm:ss xy,ww n[vv] TTST TGR TG mmm NN {UASGN|LPD} {EOM|COMPL}

or

M hh:mm:ss xy,ww n[vv] TTST TGR TG mmm NN HUB uvmnpddd,wxkqrjjj\  
[ OOS] {EOM|COMPL}

## **Denial Message**

---

[O.27021.01]

M hh:mm:ss xy,ww n[vv] TTST TGR TG mmm[-nnn] COND cc DNY

## **Autonomous Message**

---

## **Nonhierarchical**

---

[O.27021]

I hh:mm:ss xy,ww TTST TGR TG mmm NN[ OOS] 5 LN MSG:  
FROM [s]abc TO [t]ghi[ RDC][ CUS][ TLA s][ NTR]  
ddd ddd ddd ddd ddd ddd ddd  
ddd ddd ddd ddd ddd ddd ddd  
ddd ddd ddd ddd ddd ddd ddd COMPL

or

I hh:mm:ss xy,ww TTST TGR TG mmm NN HUB [s]abcdddd [t]ghijjj\  
[ OOS] COMPL



## **Hierarchical**

---

[O.27021]

```
I hh:mm:ss xy,ww  TTST TGR TG mmm NN[ OOS]  5 LN MSG:
FROM uvmnp TO wxkqr[ RDC][ CUS][ TLA s][ NTR]
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd COMPL
```

or

```
I hh:mm:ss xy,ww  TTST TGR TG mmm NN HUB uvmnpddd wxkqrjjj\
[ OOS] COMPL
```

## **Common**

---

[O.27021]

```
I hh:mm:ss xy,ww  TTST TGR TG mmm NN {UASGN|LPD} COMPL
```

[O.27021.01]

```
I hh:mm:ss xy,ww  TTST TGR TG mmm COND cc DNY
```

## **Explanation Of Parameters**

---

**TGR** - Test (access) group release

**TG** - Test (access) group

**mmm** - TG number (001 through 400)

**nnn** - TG number (001 through 400, greater than mmm)

Variable mmm is used to specify a single TG number or to specify the beginning of a range of TG numbers. Variable nnn is used to specify the end of a range of TG numbers.

**[s]abc** - 3- or 4-digit non-hierarchical FROM NPC number or first TO NPC number if TG is in HUB mode

**[t]ghi** - 3- or 4-digit non-hierarchical TO NPC number or second TO NPC number if TG is in HUB mode

If NPC numbers are expressed in three digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |
| <b>16A-16H</b>               | <b>32A-32H</b>               | <b>48A-48H</b>               | <b>64A-64H</b>               | <b>80A-80H</b>               | <b>96A-96H</b>               |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |
| <b>16A-16H</b>               | <b>32A-32H</b>               | <b>48A-48H</b>               | <b>64A-64H</b>               | <b>80A-80H</b>               | <b>96A-96H</b>               |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number or first TO NPC number if TG is in HUB mode

**wxkqr** - Hierarchical TO NPC number or second TO NPC number if TG is in HUB mode

**uv,wx** - Unit number

**m,k** - Module number

**np,qr** - NPC number within the module

The valid values are listed below:

DE type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

For an unmapped TO termination, or a backbone leg (BBL) without a return, the FROM NPC number will be shown as zeroes.

**ddd** - FROM channel number or starting channel of first TO NPC in HUB mode  
**jjj** - Starting channel of second TO NPC in HUB mode

001 through 024

|          |                                                          |
|----------|----------------------------------------------------------|
| 001-031* | Primary NPCs grown as Channel Associated Signaling (CAS) |
| 001-031  | Primary NPCs grown as Non Signaling Associated (NSA)     |

\* Circuits involving CAS channel 31 can only be tested for N = 1.

The FROM channel ddd will be '---' for circuits not involved in this test session. For unmapped TO channel(s) or a BBL without return, ddd will be '000' in the corresponding channel position(s).  
If channel jjj is mapped to a channel 000 (N = 1 only), the corresponding FROM channel ddd will be '000'.

**OOS** - Out-of-service

**RDC** - Red circuit

The circuit is a red circuit

**CUS** - Customer

The circuit is customer controlled

**TLA** - Terminate and leave active

**s** - Termination state of the circuit

**s** Explanation

**R** All channels are released

**F** One or more FROM channel is terminated

**T** One or more TO channel is terminated

**B** One or more of FROM and TO channels are terminated

**NTR** - No Transmit

Backbone leg with no return

**UASGN** - Unassigned

TG is unassigned or idle

**LPD** - Looped

**UEQD** - Unequipped

TG is not equipped

**HUB** - Hub

TG is in Hub mode

**COND** - Condition

**NN** - TG width (1 through 24)

**cc** - Hexadecimal condition code

**cc** *Explanation*

**12** Active CCN side not IS or failed or pested or hardware OOS

**13** UNIT not equipped, not in service, or failed

**14** CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS

**15** FTMI not equipped, not in service, or failed

**16** FC not eqd, not IS, or failed or inactive side FC not eqd or not IS

**17** TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS

**18** DSPI not equipped, not in service, or failed

**1A** Required FLI not equipped, not in service, or failed

**1B** Required MXR not equipped, not in service, or failed

**1C** Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS

**1D** Required MIU not equipped, not in service, or failed

**E0** ETSI not equipped, not in service, or failed

**49** test group unequipped

**cc**    *Explanation*

**58**    NPC is OOS for a TGR command and OOS keyword not specified

**5A**    NPC not in service or failed



## **TTST,TLA,NOT,TP**

### **TWO-WAY TEST ACCESS**

#### **Explanation Of Command**

This message is used to modify the terminate and leave activate status of one or both ends of the cross-connected channel associated with the specified test port. The test port is mapped to a predesignated channel of a network processing circuit for test ports during the provisioning of that test port. All domestic NPC types except SLC® NPCs can be provisioned as NPC test ports (NPCTP). All CEPT NPC types that have been provisioned with channel associated signaling may be provisioned as NPC test ports (NPCTP).

#### **Command**

##### **Nonhierarchical**

[I.25101]

TTST:FRM xy,SEQ ww:TLA m[,NOT [t]rstvvv],TP kk!

##### **Hierarchical**

[I.25101]

TTST:FRM xy,SEQ ww:TLA m[,NOT uvmnpvvv],TP kk!

## **Completion Message**

---

### **Nonhierarchical**

---

[O.25101]

M hh:mm:ss xy,ww n[vv] TTST TLA m [s]abcddd,[t]ghijjj TP kk \\  
2 LN MSG:  
[NOT [t]rstvvv][ RDC][ CUS] TLA s COMPL

### **Hierarchical**

---

[O.25101]

M hh:mm:ss xy,ww n[vv] TTST TLA m edhfgddd,wxkqrjjj TP kk \\  
2 LN MSG:  
[NOT uvmnpvvv][ RDC][ CUS] TLA s COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.25101.02]

M hh:mm:ss xy,ww n[vv] TTST TLA m [t]ghijjj TP kk T UASGN\  
DNY

[O.25101.03]

M hh:mm:ss xy,ww n[vv] TTST TLA m [s]abcddd,[t]ghijjj\  
TP kk <reason> DNY

[O.25101.04]

M hh:mm:ss xy,ww n[vv] TTST TLA m [s]abcddd,[t]ghijjj\  
[ RDC] [ CUS] TP kk TLA s PTLA DNY

### **Hierarchical**

---

[O.25101.02]

M hh:mm:ss xy,ww n[vv] TTST TLA m wxkqrjjj TP kk T UASGN DNY

[O.25101.03]

M hh:mm:ss xy,ww n[vv] TTST TLA m edhfgddd,wxkqrjjj\  
TP kk <reason> DNY

[O.25101.04]

M hh:mm:ss xy,ww n[vv] TTST TLA m edhfgddd,wxkqrjjj\  
[ RDC] [ CUS] TP kk TLA s PTLA DNY

### **Common**

---

[O.25101.01]

M hh:mm:ss xy,ww n[vv] TTST TLA m TP kk <reason> DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**TLA** - Terminate and leave activate

**m** - The end of the tested circuit that must be put into the TLA state.  
Set m to one of the values given below:

| <i>m</i> | <i>Explanation</i>        |
|----------|---------------------------|
| F        | Apply TLA to the FROM end |
| T        | Apply TLA to the TO end   |
| B        | Apply TLA to BOTH ends    |

The following apply only to a DMB/conference

|   |                                          |
|---|------------------------------------------|
| L | Apply TLA on all legs towards facilities |
| G | Apply TLA on all legs towards bridge     |
| A | Apply TLA on all legs in both directions |

The end or ends of the channel to which termination has been applied will transmit the idle code specified in the insertion word entered in the GRTH::NPC message, or its default, instead of passing data from the other end of the circuit. If the growth insertion word is MUX (X'1A), the terminate transmit word is the UMC code (X'18).

This message will be denied if test port kk is not in the monitor or split mode or if the tested circuit is already in the specified termination state.

**[t]rst** - The 3- or 4-digit nonhierarchical NPC number of a termination that must not be affected by this command.

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-002</b> | <b>161-162</b> | <b>321-322</b> | <b>481-482</b> | <b>641-642</b> | <b>801-802</b> |
| <b>021-022</b> | <b>181-182</b> | <b>341-342</b> | <b>501-502</b> | <b>661-662</b> | <b>821-822</b> |
| <b>041-042</b> | <b>201-202</b> | <b>361-362</b> | <b>521-522</b> | <b>681-682</b> | <b>841-842</b> |
| <b>061-062</b> | <b>221-222</b> | <b>381-382</b> | <b>541-542</b> | <b>701-702</b> | <b>861-862</b> |
| <b>081-082</b> | <b>241-242</b> | <b>401-402</b> | <b>561-562</b> | <b>721-722</b> | <b>881-882</b> |
| <b>101-102</b> | <b>261-262</b> | <b>421-422</b> | <b>581-582</b> | <b>741-742</b> | <b>901-902</b> |
| <b>121-122</b> | <b>281-282</b> | <b>441-442</b> | <b>601-602</b> | <b>761-762</b> | <b>921-922</b> |
| <b>141-142</b> | <b>301-302</b> | <b>461-462</b> | <b>621-622</b> | <b>781-782</b> | <b>941-942</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0002</b> | <b>0161-0162</b> | <b>0321-0322</b> | <b>0481-0482</b> |
| <b>0021-0022</b> | <b>0181-0182</b> | <b>0341-0342</b> | <b>0501-0502</b> |
| <b>0041-0042</b> | <b>0201-0202</b> | <b>0361-0362</b> | <b>0521-0522</b> |
| <b>0061-0062</b> | <b>0221-0222</b> | <b>0381-0382</b> | <b>0541-0542</b> |
| <b>0081-0082</b> | <b>0241-0242</b> | <b>0401-0402</b> | <b>0561-0562</b> |
| <b>0101-0102</b> | <b>0261-0262</b> | <b>0421-0422</b> | <b>0581-0582</b> |
| <b>0121-0122</b> | <b>0281-0282</b> | <b>0441-0442</b> | <b>0601-0602</b> |
| <b>0141-0142</b> | <b>0301-0302</b> | <b>0461-0462</b> | <b>0621-0622</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0642</b> | <b>0801-0802</b> | <b>0961-0962</b> | <b>1121-1122</b> |
| <b>0661-0662</b> | <b>0821-0822</b> | <b>0981-0982</b> | <b>1141-1142</b> |
| <b>0681-0682</b> | <b>0841-0842</b> | <b>1001-1002</b> | <b>1161-1161</b> |
| <b>0701-0702</b> | <b>0861-0862</b> | <b>1021-1022</b> | <b>1181-1182</b> |
| <b>0721-0722</b> | <b>0881-0882</b> | <b>1041-1042</b> | <b>1201-1202</b> |
| <b>0741-0742</b> | <b>0901-0902</b> | <b>1061-1062</b> | <b>1221-1222</b> |
| <b>0761-0762</b> | <b>0921-0922</b> | <b>1081-1082</b> | <b>1241-1242</b> |
| <b>0781-0782</b> | <b>0941-0942</b> | <b>1101-1102</b> | <b>1261-1262</b> |

| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1282</b> | <b>1441-1442</b> | <b>1601-1602</b> | <b>1761-1762</b> |
| <b>1301-1302</b> | <b>1461-1462</b> | <b>1621-1622</b> | <b>1781-1782</b> |
| <b>1321-1322</b> | <b>1481-1482</b> | <b>1641-1642</b> | <b>1801-1802</b> |
| <b>1341-1342</b> | <b>1501-1502</b> | <b>1661-1662</b> | <b>1821-1822</b> |
| <b>1361-1362</b> | <b>1521-1522</b> | <b>1681-1682</b> | <b>1841-1842</b> |
| <b>1381-1382</b> | <b>1541-1542</b> | <b>1701-1702</b> | <b>1861-1862</b> |
| <b>1401-1402</b> | <b>1561-1562</b> | <b>1721-1722</b> | <b>1881-1882</b> |
| <b>1421-1422</b> | <b>1581-1582</b> | <b>1741-1742</b> | <b>1901-1902</b> |
| <br>             |                  |                  |                  |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-1922</b> | <b>2081-2082</b> | <b>2241-2242</b> | <b>2401-2402</b> |
| <b>1941-1942</b> | <b>2101-2102</b> | <b>2261-2262</b> | <b>2421-2422</b> |
| <b>1961-1962</b> | <b>2121-2122</b> | <b>2281-2282</b> | <b>2441-2442</b> |
| <b>1981-1982</b> | <b>2141-2142</b> | <b>2301-2302</b> | <b>2461-2462</b> |
| <b>2001-2002</b> | <b>2161-2162</b> | <b>2321-2322</b> | <b>2481-2482</b> |
| <b>2021-2022</b> | <b>2181-2182</b> | <b>2341-2342</b> | <b>2501-2502</b> |
| <b>2041-2042</b> | <b>2201-2202</b> | <b>2361-2362</b> | <b>2521-2522</b> |
| <b>2061-2062</b> | <b>2221-2222</b> | <b>2381-2382</b> | <b>2541-2542</b> |

DACS II Non-CEF frames support two virtual NPCs using the three digit NPC numbering scheme. The valid values for Non-CEF frames are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**961-962**

DACS II CEF frames support six virtual NPCs using either a three digit or four digit NPC numbering scheme. If NPC numbers are expressed in three digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**961-966**

If NPC numbers are expressed in four digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**9961-9966**

**uvmnp** - Hierarchical TO NPC number of a termination that must not be affected by this command.

**uv** - Unit number

**m** - Module number

**np** - NPC number within the module

The values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

MB type NPC numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-8</b> | <b>01-02</b> |

VI NPC numbers listed by unit, module, and NPC Number  
Unit Type VI (Virtual)

|           |          |              |                                 |
|-----------|----------|--------------|---------------------------------|
| Unit      | Module   | NPC          |                                 |
| <b>99</b> | <b>1</b> | <b>01-02</b> | <b>(DACS II Non-CEF frames)</b> |
| <b>99</b> | <b>1</b> | <b>01-06</b> | <b>(DACS II CEF frames)</b>     |

**vvv** - Channel or conference number

Channel numbers  
001 through 024



|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

Conference numbers

001-085 (MB NPC)

001-500 (Virtual NPC)

**NOT** - Not

Not means that the following channel number must not be affected by this command. This field is only valid if the termination state is equal to L, G, or A.

**TP** - Test port

**kk** - Test port number (01 through 96)

The test port is mapped to predesignated channels of a Network Processing Circuit for test ports (NPCTP) during the provisioning of that test port.

The NPC types that can be provisioned as an NPCTP are all domestic non-SLC NPC types.

For information on the mapping between the test ports and the channels of the test NPCs (NPCTP), see GRTH::TP kk[,<tc>].

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number with the same valid values as [t]rst.

**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number with the same valid values as [t]rst.

**wxkqr** - Hierarchical NPC number of the TO termination of the circuit assigned to the test port (with the same valid values as uvmnp).

**edhfg** - Hierarchical NPC number side of the FROM termination of the circuit assigned to the test port. If the test port is assigned to an unmapped termination, this field will be all zeroes (with the same valid values as uvmnp).

**ed,wx** - Unit number  
**h,k** - Module number  
**fg,qr** - NPC number

**jjj** - TO channel number with the same value as vvv.  
**ddd** - FROM channel number with the same value as vvv.

**s** - Termination state of the circuit

| <i>s</i> | <i>Explanation</i>                   |
|----------|--------------------------------------|
| B        | BOTH sides are terminated            |
| F        | FROM side is terminated              |
| R        | RELEASED. Neither side is terminated |
| T        | TO side is terminated                |

**RDC** - Red circuit

**CUS** - Customer  
Customer-controlled circuit

**T UASGN**  
- The test port is assigned to an unmapped termination.

**PTLA** - The requested TLA state is the present TLA state.

**reason** - Denial reason

| <i>st</i>       | <i>Explanation</i>                                           |
|-----------------|--------------------------------------------------------------|
| <b>SCERR D2</b> | NOT NPC is not provisioned as DGA                            |
| <b>SCERR D5</b> | Corresponding NPC for NOT virtual channel is not provisioned |
| <b>SCERR D8</b> | Invalid NOT channel number                                   |
| <b>BADCCN</b>   | CCN OOS or failed                                            |
| <b>BADFC</b>    | FC OOS or failed                                             |
| <b>BADFLI</b>   | FLI OOS or failed                                            |
| <b>BADFMT</b>   | FMT (Formatter) OOS or failed                                |
| <b>BADFTMI</b>  | FTMI OOS or failed                                           |
| <b>BADMIU</b>   | MIU OOS or failed                                            |
| <b>BADMXR</b>   | MXR OOS or failed                                            |
| <b>BADUNIT</b>  | UNIT OOS or failed                                           |

| <b>st</b>     | <i>Explanation</i>                                         |
|---------------|------------------------------------------------------------|
| <b>CHREST</b> | CAS channel 031 not allowed                                |
| <b>F FAIL</b> | FROM side NPC is marked failed                             |
| <b>F OOS</b>  | FROM side NPC (abc) is out of service                      |
| <b>FAIL</b>   | Test port Group NPC failed                                 |
| <b>INERR</b>  | Input error in the specification of TLA direction          |
| <b>MCOND</b>  | An entity in the network is OOS or failed                  |
| <b>NA</b>     | DACS CCN or UNIT involved cannot perform the cross-connect |
| <b>OOS</b>    | Test port Group NPC out of service                         |
| <b>T FAIL</b> | TO side NPC is marked failed                               |
| <b>T OOS</b>  | TO side NPC is Out Of Service                              |

## **TTST,TLA,TG**

---

### **NX64Kbit/s TWO-WAY TEST ACCESS, TERMINATE- AND-LEAVE-ACTIVE**

#### **Explanation Of Command**

---

This command is used to terminate one or both ends of an Nx64Kbit/s cross-connection associated with a test-access group.

**Note:** In the terminated state the data normally transmitted over the circuit is replaced by the trunk conditioning specified when the cross-connection was made. The Nx64Kbit/s circuit must be an unterminated, mapped one-way or two-way circuit that is currently in the Monitor or Split test access mode.

#### **Command**

---

[I.25121]

TTST:FRM xy,SEQ ww:TLA m,TG mmm!

#### **Completion Message**

---

#### **Nonhierarchical**

---

[O.25121]

```
M hh:mm:ss xy,ww n[vv] TTST TLA m TG mmm FROM [s]abc TO [t]ghi  \
5 LN MSG:
TLA s[ RDC][ CUS][ ONEWAY]
ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd COMPL
```

## Hierarchical

[O.25121]

M hh:mm:ss xy,ww n[vv] TTST TLA m TG mmm FROM uvmnp TO wxkqr \\  
5 LN MSG:  
TLA s[ RDC][ CUS][ ONEWAY]  
ddd ddd ddd ddd ddd ddd ddd  
ddd ddd ddd ddd ddd ddd ddd  
ddd ddd ddd ddd ddd ddd ddd COMPL

## Denial Message

[O.25121.01]

M hh:mm:ss xy,ww n[vv] TTST TLA m TG mmm COND cc DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**TG** - Test-access Group

**mmm** - Test-access Group number (001 through 400)

The TG is designated as in message 31421

**[s]abc** - 3- or 4-digit non-hierarchical FROM NPC number

**[t]ghi** - 3- or 4-digit non-hierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                              |                              |                              |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |



| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number  
**wxkqr** - Hierarchical TO NPC number

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

The valid values are listed below:

DE type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM Channel numbers

001 through 024

The FROM channel ddd will be '---' for circuits not involved in this test session. For unmapped TO channel(s) or a BBL without return, ddd will be '000' in the corresponding channel position(s). If TO channel is mapped to a channel 000, the circuit can only be tested as N = 1, the corresponding FROM channel ddd will be '000'.

**RDC** - Red circuit

The cross-connection tested is a red circuit.

**CUS** - Customer

The cross-connection tested is a customer-controlled circuit.

**TLA** - Terminate and leave active

**m**

- Direction of the circuit to be terminated

|          |                    |
|----------|--------------------|
| <i>m</i> | <i>Explanation</i> |
|----------|--------------------|

|   |                         |
|---|-------------------------|
| F | FROM side is terminated |
|---|-------------------------|

|   |                       |
|---|-----------------------|
| T | TO side is terminated |
|---|-----------------------|

|   |                           |
|---|---------------------------|
| B | BOTH sides are terminated |
|---|---------------------------|

**s**

- Termination state of the circuit

|          |                    |
|----------|--------------------|
| <i>s</i> | <i>Explanation</i> |
|----------|--------------------|

|   |                                        |
|---|----------------------------------------|
| F | One or more FROM channel is terminated |
|---|----------------------------------------|

|   |                                      |
|---|--------------------------------------|
| T | One or more TO channel is terminated |
|---|--------------------------------------|

|   |                                                    |
|---|----------------------------------------------------|
| B | One or more of FROM and TO channels are terminated |
|---|----------------------------------------------------|

**UMPD** - Unmapped

Circuit under test is unmapped.

**COND cc**

- Condition code

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 12** Active CCN side not IS or failed or pested or hardware OOS
- 13** UNIT not equipped, not in service, or failed
- 14** CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
- 15** FTMI not equipped, not in service, or failed
- 16** FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
- 17** TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
- 18** DSPI not equipped, not in service, or failed
- 1A** Required FLI not equipped, not in service, or failed
- 1B** Required MXR not equipped, not in service, or failed
- 1C** Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS
- 1D** Required MIU not equipped, not in service, or failed
- E0** ETSI not equipped, not in service, or failed
- 44** Invalid direction specified for NTST TLA/TLR
- 49** test group unequipped
- 54** invalid mode for TLA/TLR
- 55** circuit already terminated
- 5A** NPC not in service or failed

## **TTST,TLR,NOT,TP**

### **TWO-WAY TEST ACCESS**

#### **Explanation Of Command**

This message is used to modify the Terminate and Leave Release status of one or both ends of the cross-connected channels associated with the specified test port. This message will be denied if the specified test port is not in the monitor or split mode or if the tested circuit is already in the specified termination release state. When used with the Subrate Feature for a circuit termination, the system response will be STST TLA TP or STST TLA MPTM TP. When used with the Subrate Feature for a circuit termination, the system response will be DISC TACC TS RLS or DISC TACC TS RLS MJU.

#### **Command**

##### **Nonhierarchical**

[I.25501]

TTST:FRM xy,SEQ ww:TLR m[,NOT [t]rstvvv],TP kk!

##### **Hierarchical**

[I.25501]

TTST:FRM xy,SEQ ww:TLR m[,NOT uvmnpvvv],TP kk!

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.25501]

M hh:mm:ss xy,ww n[vv] TTST TLR m [s]abcddd,[t]ghijjj TP kk \\  
2 LN MSG:  
[NOT [t]rstvvv][ RDC][ CUS] TLR s COMPL

#### **Hierarchical**

---

[O.25501]

M hh:mm:ss xy,ww n[vv] TTST TLR m edhfgddd,wxkqrjjj TP kk \\  
2 LN MSG:  
[NOT uvmnpvvv] [RDC] [CUS] TLR s COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.25501.02]

M hh:mm:ss xy,ww n[vv] TTST TLR m [t]ghijjj TP kk T UASGN DNY

[O.25501.03]

M hh:mm:ss xy,ww n[vv] TTST TLR m [s]abcddd,[t]ghijjj TP kk\  
<reason> DNY

[O.25501.04]

M hh:mm:ss xy,ww n[vv] TTST TLR m [s]abcddd,[t]ghijjj TP kk\  
TLR s NTLA DNY

#### **Hierarchical**

---

[O.25501.02]

M hh:mm:ss xy,ww n[vv] TTST TLR m wxkqrjjj TP kk T UASGN DNY

[O.25501.03]

M hh:mm:ss xy,ww n[vv] TTST TLR m edhfgddd,wxkqrjjj TP kk\  
<reason> DNY

[O.25501.04]

M hh:mm:ss xy,ww n[vv] TTST TLR m edhfgddd,wxkqrjjj TP kk\  
TLR s NTLA DNY

### Common

---

[O.25501.01]

M hh:mm:ss xy,ww n[vv] TTST TLR m TP kk <reason> DNY

### Autonomous Message

---

Not applicable.

### Explanation Of Parameters

---

**TLR** - Terminate and leave release

**m** - The end of the tested circuit that must be put into the terminate and leave release state.

Set m to one of the values listed below:

| <i>m</i> | <i>Explanation</i>        |
|----------|---------------------------|
| F        | Apply TLR to the FROM end |
| T        | Apply TLR to the TO end   |
| B        | Apply TLR to BOTH ends    |

The following apply only to multipoint circuits

|   |                                          |
|---|------------------------------------------|
| L | Apply TLR on all legs towards facilities |
| G | Apply TLR on all legs towards bridge     |
| A | Apply TLR on all legs in both directions |

**NOT** - Not

NOT means that the termination number following the NOT keyword is not to be affected by this command. This field is only valid for m values L, G, or A.

**TP** - Test port

**kk** - Test port number (01 through 96)

The test port is mapped to predesignated channels of a network processing circuit for test ports (NPCTP) during the provisioning of that test port. All domestic nonSLC NPC types can be provisioned as NPCTP. For the mapping between the test ports and the channels of the test NPCs, see the GRTH::TP message.

**[t]rst** - The 3- or 4-digit Nonhierarchical NPC number of a termination that must not be affected by the command.

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |



If NPC numbers are expressed in three digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-002</b> | <b>161-162</b> | <b>321-322</b> | <b>481-482</b> | <b>641-642</b> | <b>801-802</b> |
| <b>021-022</b> | <b>181-182</b> | <b>341-342</b> | <b>501-502</b> | <b>661-662</b> | <b>821-822</b> |
| <b>041-042</b> | <b>201-202</b> | <b>361-362</b> | <b>521-522</b> | <b>681-682</b> | <b>841-842</b> |
| <b>061-062</b> | <b>221-222</b> | <b>381-382</b> | <b>541-542</b> | <b>701-702</b> | <b>861-862</b> |
| <b>081-082</b> | <b>241-242</b> | <b>401-402</b> | <b>561-562</b> | <b>721-722</b> | <b>881-882</b> |
| <b>101-102</b> | <b>261-262</b> | <b>421-422</b> | <b>581-582</b> | <b>741-742</b> | <b>901-902</b> |
| <b>121-122</b> | <b>281-282</b> | <b>441-442</b> | <b>601-602</b> | <b>761-762</b> | <b>921-922</b> |
| <b>141-142</b> | <b>301-302</b> | <b>461-462</b> | <b>621-622</b> | <b>781-782</b> | <b>941-942</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0002</b> | <b>0161-0162</b> | <b>0321-0322</b> | <b>0481-0482</b> |
| <b>0021-0022</b> | <b>0181-0182</b> | <b>0341-0342</b> | <b>0501-0502</b> |
| <b>0041-0042</b> | <b>0201-0202</b> | <b>0361-0362</b> | <b>0521-0522</b> |
| <b>0061-0062</b> | <b>0221-0222</b> | <b>0381-0382</b> | <b>0541-0542</b> |
| <b>0081-0082</b> | <b>0241-0242</b> | <b>0401-0402</b> | <b>0561-0562</b> |
| <b>0101-0102</b> | <b>0261-0262</b> | <b>0421-0422</b> | <b>0581-0582</b> |
| <b>0121-0122</b> | <b>0281-0282</b> | <b>0441-0442</b> | <b>0601-0602</b> |
| <b>0141-0142</b> | <b>0301-0302</b> | <b>0461-0462</b> | <b>0621-0622</b> |

| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0642</b> | <b>0801-0802</b> | <b>0961-0962</b> | <b>1121-1122</b> |
| <b>0661-0662</b> | <b>0821-0822</b> | <b>0981-0982</b> | <b>1141-1142</b> |
| <b>0681-0682</b> | <b>0841-0842</b> | <b>1001-1002</b> | <b>1161-1161</b> |
| <b>0701-0702</b> | <b>0861-0862</b> | <b>1021-1022</b> | <b>1181-1182</b> |
| <b>0721-0722</b> | <b>0881-0882</b> | <b>1041-1042</b> | <b>1201-1202</b> |
| <b>0741-0742</b> | <b>0901-0902</b> | <b>1061-1062</b> | <b>1221-1222</b> |
| <b>0761-0762</b> | <b>0921-0922</b> | <b>1081-1082</b> | <b>1241-1242</b> |
| <b>0781-0782</b> | <b>0941-0942</b> | <b>1101-1102</b> | <b>1261-1262</b> |

| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1282</b> | <b>1441-1442</b> | <b>1601-1602</b> | <b>1761-1762</b> |
| <b>1301-1302</b> | <b>1461-1462</b> | <b>1621-1622</b> | <b>1781-1782</b> |
| <b>1321-1322</b> | <b>1481-1482</b> | <b>1641-1642</b> | <b>1801-1802</b> |
| <b>1341-1342</b> | <b>1501-1502</b> | <b>1661-1662</b> | <b>1821-1822</b> |
| <b>1361-1362</b> | <b>1521-1522</b> | <b>1681-1682</b> | <b>1841-1842</b> |
| <b>1381-1382</b> | <b>1541-1542</b> | <b>1701-1702</b> | <b>1861-1862</b> |
| <b>1401-1402</b> | <b>1561-1562</b> | <b>1721-1722</b> | <b>1881-1882</b> |
| <b>1421-1422</b> | <b>1581-1582</b> | <b>1741-1742</b> | <b>1901-1902</b> |
| <br>Unit<br>13   | <br>Unit<br>14   | <br>Unit<br>15   | <br>Unit<br>16   |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-1922</b> | <b>2081-2082</b> | <b>2241-2242</b> | <b>2401-2402</b> |
| <b>1941-1942</b> | <b>2101-2102</b> | <b>2261-2262</b> | <b>2421-2422</b> |
| <b>1961-1962</b> | <b>2121-2122</b> | <b>2281-2282</b> | <b>2441-2442</b> |
| <b>1981-1982</b> | <b>2141-2142</b> | <b>2301-2302</b> | <b>2461-2462</b> |
| <b>2001-2002</b> | <b>2161-2162</b> | <b>2321-2322</b> | <b>2481-2482</b> |
| <b>2021-2022</b> | <b>2181-2182</b> | <b>2341-2342</b> | <b>2501-2502</b> |
| <b>2041-2042</b> | <b>2201-2202</b> | <b>2361-2362</b> | <b>2521-2522</b> |
| <b>2061-2062</b> | <b>2221-2222</b> | <b>2381-2382</b> | <b>2541-2542</b> |

DACS II Non-CEF frames support two virtual NPCs using the three digit NPC numbering scheme. The valid values for Non-CEF frames are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**961-962**

DACS II CEF frames support six virtual NPCs using either a three digit or four digit NPC numbering scheme. If NPC numbers are expressed in three digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**961-966**

If NPC numbers are expressed in four digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**9961-9966**

**uvmnp** - Hierarchical NPC number of a termination that must not be affected by this command

**uv** - Unit number

**m** - Module number

**np** - NPC number within the module

The valid values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

MB type NPC numbers listed by unit, module, and NPC Number

Unit Type DP (DSPU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-8</b> | <b>01-02</b> |

VI NPC numbers listed by unit, module, and NPC Number

Unit Type VI (Virtual)

| Unit      | Module   | NPC          |                                 |
|-----------|----------|--------------|---------------------------------|
| <b>99</b> | <b>1</b> | <b>01-02</b> | <b>(DACS II Non-CEF frames)</b> |
| <b>99</b> | <b>1</b> | <b>01-06</b> | <b>(DACS II CEF frames)</b>     |

**vvv** - Channel or conference number

Channel numbers

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

Conference numbers

|         |               |
|---------|---------------|
| 001-085 | (MB NPC)      |
| 001-500 | (Virtual NPC) |

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number with the same valid values as [t]rst.

**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number with the same valid values as [t]rst.

**wxkqr** - The hierarchical NPC number of the TO termination of the circuit assigned to the test port with the same valid values as uvmnp.

**edhfg** - The hierarchical NPC number of the FROM termination of the circuit assigned to the test port. If the test port is assigned to an unmapped termination, this field will be all zeros (with the same valid values as uvmnp).

**ed,wx** - Unit number  
**h,k** - Module number  
**fg,qr** - NPC number

**jjj** - TO channel with the same valid values as vvv.  
**ddd** - FROM channel with the same valid values as vvv.

**CUS** - Customer  
The circuit is a Customer-controlled Circuit

**RDC** - Red circuit  
The tested circuit is a protected circuit

**s** - Termination state of the circuit

*s Explanation*

F FROM side is terminated  
T TO side is terminated  
B BOTH sides are terminated  
R Neither side is terminated

**T UASGN**

- The test port is assigned to an unmapped termination

**NTLA** - The requested TLA state is the present TLR (RLS) state

**reason** - Denial reason

*st Explanation*

**SCERR D2** NOT NPC is not provisioned as DGA  
**SCERR D5** Corresponding NPC for NOT virtual channel is not provisioned  
**SCERR D8** Invalid NOT channel number  
**BADCCN** CCN OOS or failed  
**BADFC** FC OOS or failed  
**BADFLI** FLI OOS or failed  
**BADFMT** FMT (Formatter) OOS or failed  
**BADFTMI** FTMI OOS or failed  
**BADMIU** MIU OOS or failed  
**BADMXR** MXR OOS or failed  
**BADUNIT** UNIT OOS or failed  
**CHREST** CAS channel 031 not allowed  
**F FAIL** FROM side NPC is marked failed  
**F OOS** FROM side NPC (abc) is out of service  
**FAIL** Test port Group NPC failed  
**INERR** Input error in the specification of TLA direction  
**MCOND** An entity in the network is OOS or failed  
**NA** DACS CCN or UNIT involved cannot perform the cross-connect  
**OOS** Test port Group NPC out of service  
**T FAIL** TO side NPC is marked failed  
**T OOS** TO side NPC is Out Of Service

## **TTST,TLR,TG**

### **NX64Kbit/s TWO-WAY TEST ACCESS, TERMINATE- AND-LEAVE-RELEASE**

#### **Explanation Of Command**

This command is used to release one or both ends of an Nx64Kbit/s cross-connection associated with the specified test-access group. The circuit to be released must be a terminated, mapped one-way or two-way circuit, that is currently in the Monitor or Split test access mode. Upon release normal data transmission is restored in the direction specified in the command.

#### **Command**

[I.25521]

TTST:FRM xy,SEQ ww:TLR m,TG mmm!

#### **Completion Message**

#### **Nonhierarchical**

[O.25521]

M hh:mm:ss xy,ww n[vv] TTST TLR m TG mmm FROM [s]abc TO [t]ghi \\  
5 LN MSG:  
TLA s[ RDC][ CUS][ ONEWAY]  
ddd ddd ddd ddd ddd ddd ddd  
ddd ddd ddd ddd ddd ddd ddd  
ddd ddd ddd ddd ddd ddd ddd COMPL

## Hierarchical

[O.25521]

M hh:mm:ss xy,ww n[vv] TTST TLR m TG mmm FROM uvmnp TO wxkqr \\  
5 LN MSG:  
TLA s[ RDC][ CUS][ ONEWAY]  
ddd ddd ddd ddd ddd ddd ddd  
ddd ddd ddd ddd ddd ddd ddd  
ddd ddd ddd ddd ddd ddd ddd COMPL

## Denial Message

[O.25521.01]

M hh:mm:ss xy,ww n[vv] TTST TLR m TG mmm COND cc DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**TG** - Test-access group

**mmm** - Test-access Group number (001 through 400)

The TG is designated as in message 31421

**[s]abc** - 3- or 4-digit non-hierarchical FROM NPC number

**[t]ghi** - 3- or 4-digit non-hierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |



|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                              |                              |                              |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |

| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number  
**wxkqr** - Hierarchical TO NPC number

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

The valid values are listed below:

DE type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM Channel number

001 through 024

The FROM channel ddd will be '---' for circuits not involved in this test session. For unmapped TO channel(s) or a BBL without return, ddd will be '000' in the corresponding channel position(s). If TO channel is mapped to a channel 000, the circuit can only be tested as N = 1, the corresponding FROM channel ddd will be '000'.

**RDC** - Red circuit

The cross-connection tested is a red circuit.

**CUS** - Customer

The cross-connection tested is a customer-controlled circuit.

**TLR** - Terminate and leave released

**m**

- Direction of the circuit to be released

|          |                    |
|----------|--------------------|
| <i>m</i> | <i>Explanation</i> |
|----------|--------------------|

|   |                       |
|---|-----------------------|
| F | FROM side is released |
|---|-----------------------|

|   |                     |
|---|---------------------|
| T | TO side is released |
|---|---------------------|

|   |                         |
|---|-------------------------|
| B | BOTH sides are released |
|---|-------------------------|

**TLA** - Terminate and leave active

**s**

- Termination state of the circuit

|          |                    |
|----------|--------------------|
| <i>s</i> | <i>Explanation</i> |
|----------|--------------------|

|   |                           |
|---|---------------------------|
| R | All channels are released |
|---|---------------------------|

|   |                                        |
|---|----------------------------------------|
| F | One or more FROM channel is terminated |
|---|----------------------------------------|

|   |                                      |
|---|--------------------------------------|
| T | One or more TO channel is terminated |
|---|--------------------------------------|

**UMPD** - Unmapped

Circuit under test is unmapped.

**COND cc**

- Condition code

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 12** Active CCN side not IS or failed or pested or hardware OOS
- 13** UNIT not equipped, not in service, or failed
- 14** CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
- 15** FTMI not equipped, not in service, or failed
- 16** FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
- 17** TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
- 18** DSPI not equipped, not in service, or failed
- 1A** Required FLI not equipped, not in service, or failed
- 1B** Required MXR not equipped, not in service, or failed
- 1C** Req'd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS
- 1D** Required MIU not equipped, not in service, or failed
- E0** ETSI not equipped, not in service, or failed
- 44** Invalid direction specified for NTST TLA/TLR
- 49** test group unequipped
- 56** circuit not terminated
- 5A** NPC not in service or failed

## **TTST,TPR,ALL,OOS**

### **TEST PORT RELEASE**

#### **Explanation Of Command**

This command requests that all test ports set up by the link on which this command is input be restored to the released mode. An individual output message will be received for each test port released (see TTST,TPR,TP,OOS)

This output message will be received after all test ports have been released.

Substrate test sessions are also released by this command.

#### **Command**

[I.27002]

TTST:FRM xy,SEQ ww:TPR,ALL[,OOS]!

#### **Completion Message**

[O.27002]

M hh:mm:ss xy,ww n[vv] TTST TPR ALL COND cc COMPL

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.27002]

I hh:mm:ss xy,ww TTST TPR ALL COND cc COMPL

### **Explanation Of Parameters**

---

**TPR** - Test Port Release

**ALL** - All

**OOS** - Out-of-service

The OOS keyword is used to release test ports on an out-of-service circuit. Any test port, regardless of the type of circuit accessed, will be released.

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

**00** No conditions

**01** No test ports were activated by link n

**02** One or more test ports could not be released

## **TTST,TPR,TP,OOS**

### **TWO-WAY TEST ACCESS**

#### **Explanation Of Command**

This command allows a circuit under test to be put in the release mode and to be restored to its mapped (terminated or normal) state. When the Subrate Feature is used for a circuit termination, the system response will be a Subrate test port release message.

#### **Command**

[I.27001]

TTST:FRM xy,SEQ ww:TPR,TP kk[,OOS]!

#### **Completion Message**

##### **Nonhierarchical**

[O.27001]

M hh:mm:ss xy,ww n[vv] TTST TPR [s]abcddd,[t]ghijjj \  
[ RDC][ CUS] TP kk[ TLA s][ OOS] [NTR] COMPL

##### **Hierarchical**

[O.27001]

M hh:mm:ss xy,ww n[vv] TTST TPR wxkqrddd,uvmpjjj \  
[ RDC][ CUS] TP kk[ TLA s][ OOS] [NTR] COMPL



### **Denial Message**

---

#### **Nonhierarchical**

---

[O.27001.02]

M hh:mm:ss xy,ww n[vv] TTST TPR [s]abcddd,[t]ghijjj \  
TP kk <reason> DNY

#### **Hierarchical**

---

[O.27001.02]

M hh:mm:ss xy,ww n[vv] TTST TPR wxkqrddd,uvmpjjj \  
TP kk <reason> DNY

#### **Common**

---

[O.27001.01]

M hh:mm:ss xy,ww n[vv] TTST TPR TP kk <reason> DNY

### **Autonomous Message**

---

#### **Nonhierarchical**

---

[O.27001]

I hh:mm:ss xy,ww TTST TPR [s]abcddd,[t]ghijjj \  
[ RDC][ CUS] TP kk[ TLA s][ OOS] [NTR] COMPL

[O.27001.02]

I hh:mm:ss xy,ww TTST TPR [s]abcddd,[t]ghijjj\  
TP kk <reason> DNY

#### **Hierarchical**

---

[O.27001]

I hh:mm:ss xy,ww TTST TPR wxkqrddd,uvmpjjj \  
[ RDC][ CUS] TP kk[ TLA s][ OOS] [NTR] COMPL

[O.27001.02]

**I** hh:mm:ss xy,ww TTST TPR wxkqrddd,uvmnpjjj \  
**TP** kk <reason> DNY

### Common

[O.27001.01]

**I** hh:mm:ss xy,ww TTST TPR TP kk <reason> DNY

### Explanation Of Parameters

**TP** - Test port

**kk** - Test port number (01 through 96)

**OOS** - Out-of-service

Used to release test ports on an out-of-service circuit

**[s]abc** - The 3- or 4-digit nonhierarchical FROM NPC number

**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

|                              |                              |                              |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
| <b>NPC</b><br><b>001-002</b> | <b>NPC</b><br><b>161-162</b> | <b>NPC</b><br><b>321-322</b> | <b>NPC</b><br><b>481-482</b> | <b>NPC</b><br><b>641-642</b> | <b>NPC</b><br><b>801-802</b> |
| <b>021-022</b>               | <b>181-182</b>               | <b>341-342</b>               | <b>501-502</b>               | <b>661-662</b>               | <b>821-822</b>               |
| <b>041-042</b>               | <b>201-202</b>               | <b>361-362</b>               | <b>521-522</b>               | <b>681-682</b>               | <b>841-842</b>               |
| <b>061-062</b>               | <b>221-222</b>               | <b>381-382</b>               | <b>541-542</b>               | <b>701-702</b>               | <b>861-862</b>               |
| <b>081-082</b>               | <b>241-242</b>               | <b>401-402</b>               | <b>561-562</b>               | <b>721-722</b>               | <b>881-882</b>               |
| <b>101-102</b>               | <b>261-262</b>               | <b>421-422</b>               | <b>581-582</b>               | <b>741-742</b>               | <b>901-902</b>               |
| <b>121-122</b>               | <b>281-282</b>               | <b>441-442</b>               | <b>601-602</b>               | <b>761-762</b>               | <b>921-922</b>               |
| <b>141-142</b>               | <b>301-302</b>               | <b>461-462</b>               | <b>621-622</b>               | <b>781-782</b>               | <b>941-942</b>               |

If NPC numbers are expressed in four digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1  | Unit<br>2  | Unit<br>3  | Unit<br>4  |
|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| 0001-0002  | 0161-0162  | 0321-0322  | 0481-0482  |
| 0021-0022  | 0181-0182  | 0341-0342  | 0501-0502  |
| 0041-0042  | 0201-0202  | 0361-0362  | 0521-0522  |
| 0061-0062  | 0221-0222  | 0381-0382  | 0541-0542  |
| 0081-0082  | 0241-0242  | 0401-0402  | 0561-0562  |
| 0101-0102  | 0261-0262  | 0421-0422  | 0581-0582  |
| 0121-0122  | 0281-0282  | 0441-0442  | 0601-0602  |
| 0141-0142  | 0301-0302  | 0461-0462  | 0621-0622  |

| Unit<br>5  | Unit<br>6  | Unit<br>7  | Unit<br>8  |
|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| 0641-0642  | 0801-0802  | 0961-0962  | 1121-1122  |
| 0661-0662  | 0821-0822  | 0981-0982  | 1141-1142  |
| 0681-0682  | 0841-0842  | 1001-1002  | 1161-1161  |
| 0701-0702  | 0861-0862  | 1021-1022  | 1181-1182  |
| 0721-0722  | 0881-0882  | 1041-1042  | 1201-1202  |
| 0741-0742  | 0901-0902  | 1061-1062  | 1221-1222  |
| 0761-0762  | 0921-0922  | 1081-1082  | 1241-1242  |
| 0781-0782  | 0941-0942  | 1101-1102  | 1261-1262  |

| Unit<br>9  | Unit<br>10 | Unit<br>11 | Unit<br>12 |
|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| 1281-1282  | 1441-1442  | 1601-1602  | 1761-1762  |
| 1301-1302  | 1461-1462  | 1621-1622  | 1781-1782  |
| 1321-1322  | 1481-1482  | 1641-1642  | 1801-1802  |
| 1341-1342  | 1501-1502  | 1661-1662  | 1821-1822  |
| 1361-1362  | 1521-1522  | 1681-1682  | 1841-1842  |
| 1381-1382  | 1541-1542  | 1701-1702  | 1861-1862  |
| 1401-1402  | 1561-1562  | 1721-1722  | 1881-1882  |
| 1421-1422  | 1581-1582  | 1741-1742  | 1901-1902  |

| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-1922</b> | <b>2081-2082</b> | <b>2241-2242</b> | <b>2401-2402</b> |
| <b>1941-1942</b> | <b>2101-2102</b> | <b>2261-2262</b> | <b>2421-2422</b> |
| <b>1961-1962</b> | <b>2121-2122</b> | <b>2281-2282</b> | <b>2441-2442</b> |
| <b>1981-1982</b> | <b>2141-2142</b> | <b>2301-2302</b> | <b>2461-2462</b> |
| <b>2001-2002</b> | <b>2161-2162</b> | <b>2321-2322</b> | <b>2481-2482</b> |
| <b>2021-2022</b> | <b>2181-2182</b> | <b>2341-2342</b> | <b>2501-2502</b> |
| <b>2041-2042</b> | <b>2201-2202</b> | <b>2361-2362</b> | <b>2521-2522</b> |
| <b>2061-2062</b> | <b>2221-2222</b> | <b>2381-2382</b> | <b>2541-2542</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

DACS II Non-CEF frames support two virtual NPCs using the three digit NPC numbering scheme. The valid values for Non-CEF frames are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**  
**961-962**

DACS II CEF frames support six virtual NPCs using either a three digit or four digit NPC numbering scheme. If NPC numbers are expressed in three digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**  
**961-966**

If NPC numbers are expressed in four digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**  
**9961-9966**

**uvmnp** - Hierarchical TO NPC number of the circuit assigned to the test port.

**wxkqr** - Hierarchical FROM NPC number of the circuit assigned to the test port.

If the test port is assigned to an unmapped termination, this field will be all zeroes.

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

The valid values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

MB type NPC numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-8</b> | <b>01-02</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

VI NPC numbers listed by unit, module, and NPC Number  
Unit Type VI (Virtual)

| Unit      | Module   | NPC          |                                 |
|-----------|----------|--------------|---------------------------------|
| <b>99</b> | <b>1</b> | <b>01-02</b> | <b>(DACS II Non-CEF frames)</b> |
| <b>99</b> | <b>1</b> | <b>01-06</b> | <b>(DACS II CEF frames)</b>     |

**ddd** - FROM channel or conference number  
**jjj** - TO channel or conference number

Channel numbers

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

Conference numbers

|         |               |
|---------|---------------|
| 001-085 | (MB NPC)      |
| 001-500 | (Virtual NPC) |

**TPR** - Test port release

**TLA** - Terminate and leave active

**s** - Termination state of the circuit

|          |                                      |
|----------|--------------------------------------|
| <b>s</b> | Explanation                          |
| <b>R</b> | RELEASED. Neither side is terminated |
| <b>F</b> | FROM side is terminated              |
| <b>T</b> | TO side is terminated                |
| <b>B</b> | Both sides are terminated            |

**RDC** - Red circuit

**CUS** - Customer  
Customer-controlled circuit

**NTR** - No transmit

|               |                                                                           |
|---------------|---------------------------------------------------------------------------|
| <b>st</b>     | <i>Explanation</i>                                                        |
| <b>F FAIL</b> | FROM side NPC is marked failed                                            |
| <b>F OOS</b>  | FROM side NPC (abc) is out of service                                     |
| <b>F UEQD</b> | The DACS unit supporting the FROM termination is out-of-service or failed |
| <b>FAIL</b>   | Test port Group NPC failed                                                |
| <b>MCOND</b>  | An entity in the network is OOS or failed                                 |
| <b>NA</b>     | DACS CCN or UNIT involved cannot perform the cross-connect                |
| <b>NUTST</b>  | Test port kk is presently idle                                            |
| <b>OOS</b>    | Test port Group NPC out of service                                        |
| <b>T FAIL</b> | TO side NPC is marked failed                                              |
| <b>T OOS</b>  | TO side NPC is Out Of Service                                             |
| <b>T UEQD</b> | The DACS unit supporting the TO termination is out-of-service or failed   |
| <b>UEQD</b>   | The test port Group NPC or the test port is not equipped                  |



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## UTL

---

This section documents the **UTL** command.

## **UTL,ACO**

---

### **ALARM CUTOFF**

#### **Explanation Of Command**

---

This message executes an audible alarm cutoff (ACO), silencing any currently active central office audible frame alarms. DACS II also illuminates the green ACO LED on the front status panel. The ACO remains active and the green LED remains illuminated until all frame alarms are retired or a new alarm appears on the system.

Note that executing an ACO **does not** inhibit subsequent audible alarms from being generated for additional failures. In addition, the ACO does not retire local or remote **visible** indications and does not cause the system to issue an alarm clear notification.

Executing an ACO by inputting this command is equivalent to pressing the status panel ACO push-button. When the ACO push-button is pressed, a message indicating that the ACO has been activated is generated by the system.

#### **Command**

---

[I.51111]

**UTL:FRM xy,SEQ ww:ACO!**

#### **Completion Message**

---

[O.51111]

**pahh:mm:ss xy,ww n[vv] UTL ACO {ACTIVE|INACT} COMPL**

#### **Denial Message**

---

Not applicable.

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**ACO** - Alarm cutoff

**ACTIVE** - Active alarm

The appearance of this keyword indicates that the audible alarm cutoff has been activated in the system.

**INACT** - Inactive alarm

The appearance of this keyword indicates that there were no alarms on the system and the audible alarm cutoff was not activated.

## **UTL,BMTR,FROM,TO,EXCT,INCL**

### **BACKUP MEMORY TRANSFER**

#### **Explanation Of Command**

This message performs the following functions:

1. When the MC is in-service, it may be used to request a transfer of database information from random access memory (RAM) to the memory device (MEM) or devices that are in-service. The Primary Memory (PMEM) device will always be in-service. The Secondary Memory (SMEM) device may or may not be in-service. If SMEM is in-service, then a transfer of database information will be performed from RAM to SMEM.
2. When the MC is in maintenance condition (MCOND), it may be used to request a transfer of executables or database information between PMEM and SMEM or between SMEM and PMEM. If the optional EXCT keyword is **not** used only database information will be transferred. If the EXCT keyword is used only executables will be transferred.

Restricted maintenance privilege is required for transfers of executables or database information from SMEM to PMEM.

Every ten minutes the state of the frame is checked to look for changes in provisioning and/or cross connections. If a change has occurred within that period, an autonomous request is made to transfer data base information from RAM to MEM.

If the user issues a command transferring database information or executables from PMEM to SMEM, the command is executed immediately; however, if the transfer occurs from SMEM to PMEM the following message will appear:

#### **ARE YOU SURE? (YES/NO)**

Only if the answer is YES, will the command be executed. If the answer is not YES or the user does not respond within 60 seconds, the following will be displayed:

#### **COMMAND ABORTED**



### **Command**

---

[I.55701]

UTL:FRM xy,SEQ ww:BMTR,FROM <from>,TO <to>[, {EXCT|INCL}]!

### **Completion Message**

---

[O.55701]

M hh:mm:ss xy,ww n[vv] UTL BMTR FROM <from> TO <to>\  
[ {EXCT|INCL}] COMPL

[O.55702]

M hh:mm:ss xy ww n[vv] UTL BMTR IN PROGRESS

### **Denial Message**

---

[O.55701.01]

M hh:mm:ss xy,ww n[vv] UTL BMTR FROM <from> TO <to>[ {EXCT|INCL}] \  
COND cc DNY

### **Autonomous Message**

---

[O.55701]

A hh:mm:ss xy,ww UTL BMTR FROM <from> TO <to>[ {EXCT|INCL}] COMPL

[O.55701.01]

A hh:mm:ss xy,ww UTL BMTR FROM <from> TO <to>[ {EXCT|INCL}] \  
COND cc DNY

## Explanation Of Parameters

---

**BMTR** - Backup memory transfer

**FROM** - From

**from** - Source for backup memory transfer

**TO** - To

**to** - Destination for backup memory transfer

RAM Random access memory  
PMEM Primary memory device  
SMEM Secondary memory device  
MEM PMEM, SMEM or both

**Note:** The only permissible combinations are listed below:

**from to**

RAM MEM  
PMEM SMEM  
SMEM PMEM

**EXCT** - Executable

Transfer generic executable software only. May not be used when transferring memory contents from RAM to MEM. Frame must be in maintenance condition state (MCOND) when transferring executable software from PMEM to SMEM or SMEM to PMEM. Additionally, SMEM to PMEM requires restricted maintenance (RMON) privileges.

**INCL** - Inclusive

The INCL keyword is used to request that the data base on the PMEM be transferred to the SMEM excluding the generic journal files.  
This keyword cannot be combined with the EXCT keyword.  
INCL may not be used when transferring RAM to MEM.

**cc** - Hexadecimal condition code

**cc** *Explanation*

**8C** DB MP or units ram error  
**8D** DB PMEM error OP-CL-RD-WR-SK  
**8E** DB can't send or receive mail  
**8F** Can't lock or unlock ram database  
**90** DB can't get the slave mail box  
**95** Invalid option,mailbox or flag  
**96** Unit(s) OOS, and additional backup required  
**97** Entity can't be addressed in this configuration  
**98** Checksums verification failed

**cc**    *Explanation*

- 99**    G1 SMEM for SMEM->PMEM w/journals
- 20**    Software Identification Block is not readable
- 21**    Software Identification Block failed comparison
- A5**    FPI on SMEM does not match one on PMEM
- 84**    Problem occurred while accessing SMEM or unformatted SMEM
- 85**    Problem occurred while accessing PMEM
- 86**    Source does not contain requested information
- 88**    SMEM is a normal SMEM
- 89**    Problem occurred while accessing BOTH\_MEM
- 90**    Can't mount or unmount BOTH\_MEM
- 91**    Can't mount or unmount SMEM
- 92**    Can't mount or unmount PMEM
- 93**    SMEM is not present
- 94**    SMEM unit is not restored
- E6**    DB SMEM error OP-CL-RD-WR-SK
- E7**    PMEM not restored
- F0**    SSC Diagnostic Failure
- FC**    Invalid executable on card
- FF**    DB retrofit fail

## **UTL,BOOT,FRAME,CLR**

### **UTILITY BOOT**

#### **Explanation Of Command**

This message requests the transfer of the data base from the PMEM to the random access memory (RAM). This utility message, rather than the BOOT command, updates the frame from the PMEM data base.

The optional CLR keyword is unnecessary but it is allowed for compatibility with older software releases.

#### **Command**

[I.58001]

**UTL:FRM xy,SEQ ww:BOOT,FRAME[,CLR]!**

#### **Completion Message**

[O.58001]

**M hh:mm:ss xy,ww n[vv] UTL BOOT FRAME[ CLR] COND cc COMPL**

[O.58002]

**M hh:mm:ss xy,ww n[vv] UTL BOOT FRAME IN PROGRESS**

#### **Denial Message**

[O.58001.01]

**M hh:mm:ss xy,ww n[vv] UTL BOOT FRAME[ CLR] COND cc DNY**

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**CLR** - Clear

The optional CLR keyword is unnecessary but it is allowed for compatibility with older software releases.

**PMEM** - Primary memory card.

**cc** - Hexadecimal condition code

**cc**    *Explanation*

- 46**    Failed to boot CONF file
- 47**    Failed to boot DB
- 48**    Failed to boot journal--recurrence indicates database corruption
- 49**    Failed to boot unit
- 4C**    Failed to boot CI
- 51**    General boot failure (vanilla flavor)
- 18**    DSPI not equipped, not in service, or failed
- 52**    Database is empty

## **UTL,CLR,ALL**

---

### **UTILITY CLEAR**

#### **Explanation Of Command**

---

This message requests a clear of the counters or state on a specified facility performance parameter for all in-service network processing circuits (NPCs) which have the specified parameter.

DACS II will silently skip NPCs which can not be cleared.

#### **Command**

---

[I.56011]

UTL:FRM xy,SEQ ww:CLR,<parameter>,ALL!

#### **Completion Message**

---

[O.56011]

M hh:mm:ss xy,ww n UTL CLR <parameter> ALL COMPL

#### **Denial Message**

---

[O.56011.01]

M hh:mm:ss xy,ww n UTL CLR <parameter> ALL COND cc DNY

#### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

---

**CLR** - Clear

### **parameter**

- Facility performance monitoring parameter

#### *parameter Explanation*

|      |                                         |
|------|-----------------------------------------|
| BER  | Bit error rate                          |
| BPV  | Bipolar violation                       |
| COFA | Change of frame alignment               |
| CRC  | Cyclic redundancy code                  |
| ER   | Error rate (same as BER for D4 framing) |
| ERS  | Errored seconds                         |
| FRER | Framing error                           |
| OOF  | Out of frame                            |
| SERS | Severely errored seconds                |
| SLIP | Slip count                              |
| SAFE | SAFE count                              |
| SANE | SANE count                              |

**cc** - Hexadecimal condition code

#### **cc** *Explanation*

|           |                                                          |
|-----------|----------------------------------------------------------|
| <b>04</b> | Subject entity is out of service                         |
| <b>10</b> | Unit is not equipped                                     |
| <b>11</b> | UC is out of service                                     |
| <b>12</b> | UC is in service but failed                              |
| <b>14</b> | FTMI is out of service                                   |
| <b>15</b> | NPC is unequipped                                        |
| <b>1F</b> | FTMI is in service but failed                            |
| <b>24</b> | Unit type error                                          |
| <b>26</b> | NPC type error                                           |
| <b>46</b> | NPC Failed or Out of Service                             |
| <b>47</b> | IU/TI type NPC                                           |
| <b>7E</b> | Bank id number not found                                 |
| <b>A0</b> | No SAFE alarm for DGP                                    |
| <b>A1</b> | The parameter specified does not match with the NPC type |

## **UTL,CLR,ERR,HWER,SWER**

### **UTILITY CLEAR HARDWARE/SOFTWARE ERROR RECOVERY LOG FILE**

#### **Explanation Of Command**

This message clears the DACS II error rate (ERR) recovery log. The log is a file that contains the history of the recovery events.

#### **Command**

[I.56061]

**UTL:FRM xy,SEQ ww:CLR,ERR,{HWER|SWER}!**

#### **Completion Message**

[O.56061]

**M hh:mm:ss xy,ww n[vv] UTL CLR ERR {HWER|SWER} COMPL**

#### **Denial Message**

[O.56061.01]

**M hh:mm:ss xy,ww n[vv] UTL CLR ERR {HWER|SWER} COND cc DNY**

#### **Autonomous Message**

Not applicable.



### **Explanation Of Parameters**

---

**CLR** - Clear

**ERR** - Error rate recovery

**HWER** - Hardware error recovery log file

**SWER** - Software error recovery log file

**cc** - Hexadecimal condition code

**cc** *Explanation*

**F1** File has already been cleared

## **UTL,CLR,NPC,ALL,AI,LOCN,MONDAT,MONTIM**

### **UTILITY CLEAR DA/TA/PA NPC PARAMETERS**

#### **Explanation Of Command**

This message clears the facility performance monitoring parameter counts of DA and TA type NPCs.

This command will handle NPC addressing in the input command as follows: If only a single NPC is addressed in the input command, then either a completion or denial response will be generated for the addressed NPC. DACS II will always deny invalid commands to specifically addressed NPCs.

If a range of NPCs is addressed or the ALL NPC keyword is used and the feature applies to one or more NPCs within the range, DACS II will perform the operation on the NPCs in the range that support the requested feature, but skip the NPCs which do not support the requested feature. DACS II provides a variety of line termination types which support different features and can be randomly mixed within the frame. If at least one of the NPCs in the addressed range supports the requested feature, DACS II will generate a completion response for the entire range of NPCs; individual denial responses will not be generated for NPCs within the range which do not support the feature. If *none* of the NPCs in the addressed range support the requested feature, DACS II will generate a range denial response. NPC - Network processing circuit

If an NPC range is specified in the input command, the following floating window rules apply:

1. Unequipped NPCs within the requested range will be skipped.
2. If a CEPT gap is within the requested range, the NPCs in the gap will be skipped.
3. If an endpoint of the requested range is in a CEPT gap, then the command will be denied."

## **Command**

---

### **Nonhierarchical**

---

[I.56071]

UTL:FRM xy,SEQ ww:CLR,{NPC [s]abc[-[t]def]|ALL},<parameter>[,AI aaaaa] \  
[,LOCN locn][,MONDAT dddd][,MONTIM tttt]!

### **Hierarchical**

---

[I.56071]

UTL:FRM xy,SEQ ww:CLR,{NPC uvmnp[-wxkqr]|ALL},<parameter>[,AI aaaaa] \  
[,LOCN locn][,MONDAT dddd][,MONTIM tttt]!

## **Completion Message**

---

### **Nonhierarchical**

---

If the output message requires less than 80 characters:

[O.56071]

M hh:mm:ss xy,ww n[vv] UTL CLR {NPC [s]abc[-[t]def]|ALL} <parameter> \  
[AI aaaaa ][LOCN locn ][MONDAT dddd ][MONTIM tttt ]COMPL

If the output message requires more than 80 characters:

[O.56071]

M hh:mm:ss xy,ww n[vv] UTL CLR {NPC [s]abc[-[t]def]|ALL} <parameter> 2 LN MSG:  
[AI aaaaa ][LOCN locn ][MONDAT dddd ][MONTIM tttt ]COMPL

### **Hierarchical**

---

If the output message requires less than 80 characters:

[O.56071]

```
M hh:mm:ss xy,ww n[vv] UTL CLR {NPC uvmnp[-wxkqr]|ALL} <parameter> \  
[AI aaaaa ][LOCN locn ][MONDAT dddd ][MONTIM tttt ]COMPL
```

If the output message requires more than 80 characters:

[O.56071]

```
M hh:mm:ss xy,ww n[vv] UTL CLR {NPC uvmnp[-wxkqr]|ALL} <parameter>  2 LN MSG:  
[AI aaaaa ][LOCN locn ][MONDAT dddd ][MONTIM tttt ]COMPL
```

### **Denial Message**

---

### **Nonhierarchical**

---

If the output message requires less than 80 characters:

[O.56071.01]

```
M hh:mm:ss xy,ww n[vv] UTL CLR {NPC [s]abc[-[t]def]|ALL} <parameter> \  
[AI aaaaa ][LOCN locn ][MONDAT dddd ][MONTIM tttt ]COND cc DNY
```

If the output message requires more than 80 characters:

[O.56071.01]

```
M hh:mm:ss xy,ww n[vv] UTL CLR {NPC [s]abc[-[t]def]|ALL} <parameter>  2 LN MSG:  
[AI aaaaa ][LOCN locn ][MONDAT dddd ][MONTIM tttt ]COND cc DNY
```

## **Hierarchical**

If the output message requires less than 80 characters:

[O.56071.01]

```
M hh:mm:ss xy,ww n[vv] UTL CLR {NPC uvmnp[-wxkqr]|ALL} <parameter> \  
[AI aaaaa ][LOCN locn ][MONDAT dddd ][MONTIM tttt ]COND cc DNY
```

If the output message requires more than 80 characters:

[O.56071.01]

```
M hh:mm:ss xy,ww n[vv] UTL CLR {NPC uvmnp[-wxkqr]|ALL} <parameter>  2 LN MSG:  
[AI aaaaa ][LOCN locn ][MONDAT dddd ][MONTIM tttt ]COND cc DNY
```

## **Autonomous Message**

Not applicable.

## **Explanation Of Parameters**

**NPC** - Network processing circuit

**ALL** - All

This keyword is a valid option for NPCs rather than specifying a single or range of NPCs. It is used to clear a single parameter on all ANSI NPCs. If the ALL NPC option is selected, the input command must specify only a single facility parameter. An input command with the ALL NPC key word and any facility parameter groupings will be denied.

[s]abc - The 3- or 4-digit nonhierarchical NPC number

[t]def - The 3- or 4-digit nonhierarchical NPC number

The valid values are:

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |
| <b>16A-16H</b>               | <b>32A-32H</b>               | <b>48A-48H</b>               | <b>64A-64H</b>               | <b>80A-80H</b>               | <b>96A-96H</b>               |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

**wxkqr** - Hierarchical NPC number

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

Unit    Module NPC  
**01-16 1-4    01-40**

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

Unit    Module    NPC  
**01-16    1-6    01-28**

## parameter

- Parameter name

The type of monitored parameter accumulation registers which are to be reset. If only a single NPC is specified in the input command, all types of its parameter accumulators may be reset (possibly restricted by the choices of other input parameters) by selecting the value ALLPAR in the <parameter> field. If more than one NPC is specified in the input command, then ALLPAR, ALLL, and ALLP are not valid values for parameter.

The values ALLL and ALLP may be selected only if MONDAT and MONTIM are set to a value of HIST to clear a set of historical registers. They are used to clear all historical 15-minute and daily line parameters and path parameters, respectively, as a group. The AI parameter must not be entered on the input command line. (The value ALLPAR may also be selected if the MONDAT and MONTIM parameters are programmed to clear a set of historical registers. It is used to clear the group of all historical line and path parameters.)

### parameter      *Explanation*

ALLL    All line parameters listed below  
ALLP    All path parameters listed below  
ALLPAR    All parameters listed below  
CSSP    Path Controlled Slip Seconds  
CVL    Line Coding Violations  
CVP    Path Coding Violations  
ESL    Line Errored Seconds  
ESP    Path Errored Seconds  
SEFS    Path Severely Errored Framing Seconds  
SESL    Line Severely Errored Seconds  
SESP    Path Severely Errored Seconds  
UASP    Path Unavailable Seconds

**AI**      - Accumulation interval

**aaaaa**    - The accumulation time period for the specified parameter.

This parameter must be specified in the input command line unless MONDAT and MONTIM are programmed to reset a group of historical performance parameters. When a group of historical parameters is reset, both the 15-minute and daily accumulators are reset.

### **aaaaa**      *Explanation*

15MIN    Parameter count from a 15-minute accumulator  
DAILY    Parameter count from a daily accumulator



**LOCN** - Location

**locn** - Facility location

The facility location which corresponds to the set of performance monitoring registers which are to be reset. If this optional parameter is not present in the input command, it defaults to a value of NEND.

**locn**    *Explanation*

ALL      Near-end and Far-end

FEND    Far-end

NEND    Near-end

**MONDAT**            - Monitored Date

**dddd**    - Performance monitoring period begin date

The date of the beginning of the performance monitoring period to reset (specified in the AI parameter) as MMDD, where MM is the month (01-12) and DD is the day (01-31) of the month. If this optional input parameter is not present in the command, it defaults to a value of CURD, the current date.

The value HIST is an option for input commands. The value HIST provides a group reset of near-end and/or far-end historical 15-minute and daily accumulators on a per-line and per-path basis. If the value HIST is selected for MONDAT, it must also be selected for MONTIM. The only valid options for <parameter> in this case are {ALLPAR|ALL|ALLP} and the valid options for LOCN are {NEND|FEND|ALL}. The AI parameter must not be entered on the input command line.

**dddd**                            *Explanation*

{01-12}{01-31}    Month of Year/Day of Month Format

CURD              Current Date

HIST               All historical accumulators

**MONTIM** - Monitored Time

**tttt** - Performance monitoring period begin time

The beginning time of day of the performance monitoring period to reset (specified in the AI parameter) as HHMM, where HH is the hour (00-23) and MM is the minute {00,15,30,45} of the hour. If this optional input parameter is not present in the command, it defaults to a value of CURT, the current time.

The value HIST is an option for input commands. The value HIST provides a group reset of near-end and/or far-end historical 15-minute and daily accumulators on a per-line and per-path basis. If the value HIST is selected for MONTIM, it must also be selected for MONDAT. The only valid options for <parameter> in this case are {ALLPAR|ALLL|ALLP} and the valid options for LOCN are {NEND|FEND|ALL}. The AI parameter must not be entered on the input command line.

This parameter must not appear in input commands which specify daily accumulation intervals (AI = DAILY).

| <b>tttt</b>          | <i>Explanation</i>          |
|----------------------|-----------------------------|
| {00-23}{00,15,30,45} | Hour of Day/Minute of Hour  |
| HIST                 | All historical accumulators |
| CURT                 | Current Time                |

**uvmnp** - Hierarchical NPC number

**wxkqr** - Hierarchical NPC number

**cc** - Hexadecimal condition code

| <b>cc</b> | <i>Explanation</i>                                              |
|-----------|-----------------------------------------------------------------|
| <b>04</b> | Subject entity is out of service                                |
| <b>11</b> | UC is out of service                                            |
| <b>12</b> | UC is in service but failed                                     |
| <b>14</b> | FTMI is out of service                                          |
| <b>15</b> | NPC is unequipped                                               |
| <b>1F</b> | FTMI is in service but failed                                   |
| <b>26</b> | NPC type error                                                  |
| <b>0C</b> | The MONDAT and MONTIM parameters can not both be specified      |
| <b>B7</b> | The associated MXR is In-Service but pested                     |
| <b>A1</b> | The parameter specified does not match with the NPC type        |
| <b>17</b> | Command did not execute for any entity specified in the command |
| <b>1B</b> | Historical data can not be specified                            |
| <b>1E</b> | Monitored Date field is not allowed                             |
| <b>20</b> | Only DAILY for accumulation interval is allowed                 |
| <b>21</b> | Only 15MIN for accumulation interval is allowed                 |
| <b>22</b> | FTMI is PESTED                                                  |

**cc**    *Explanation*

- 23**    No PM data available
- 24**    Monitored Time field is not allowed
- 25**    Accumulation Interval field is missing
- 27**    Only historical data can be specified
- 31**    Accumulation Interval field is not allowed
- 89**    Interval is not valid/not available

## **UTL,CLR,NPC,PARAMS**

### **CLEAR FACILITY PERFORMANCE PARAMETERS**

#### **Explanation Of Command**

This message requests the facility performance parameters be cleared of the values or state for one network processing circuit (NPC).

This command does not clear the parameters on a digital interface unit (DIU) NPC.

#### **Command**

##### **Nonhierarchical**

[I.56051]

UTL:FRM xy,SEQ ww:CLR,NPC [s]abc,PARAMS!

##### **Hierarchical**

[I.56051]

UTL:FRM xy,SEQ ww:CLR,NPC uvmnp,PARAMS!

#### **Completion Message**

##### **Nonhierarchical**

[O.56051]

M hh:mm:ss xy,ww n[vv] UTL CLR NPC [s]abc PARAMS COMPL

### **Hierarchical**

[O.56051]

M hh:mm:ss xy,ww n[vv] UTL CLR NPC uvmnp PARAMS COMPL

### **Denial Message**

### **Nonhierarchical**

[O.56051.01]

M hh:mm:ss xy,ww n[vv] UTL CLR NPC [s]abc PARAMS COND cc DNY

### **Hierarchical**

[O.56051.01]

M hh:mm:ss xy,ww n[vv] UTL CLR NPC uvmnp PARAMS COND cc DNY

### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**CLR** - Clear

**PARAMS** - Parameters

For domestic NPCs, the parameters which will be cleared with this command are:

| <i>Parameter</i> | <i>Explanation</i>                      |
|------------------|-----------------------------------------|
| BER              | Bit Error Rate                          |
| BPV              | Bipolar Violation                       |
| COFA             | Change Of Frame Alignment               |
| CRC              | Cyclic Redundancy Code                  |
| ER               | Error Rate (same as BER for D4 framing) |
| ERS              | Errored Seconds                         |
| FRER             | Framing Error                           |
| OOF              | Out Of Frame                            |
| SERS             | Severely Errored Seconds                |
| SLIP             | Slip count                              |
| SAFE             | Shelf Alarm Far End count               |
| SANE             | Shelf Alarm Near End count              |

**cc** - Hexadecimal condition code

| <b>cc</b> | <i>Explanation</i>                          |
|-----------|---------------------------------------------|
| <b>02</b> | Subject entity is not equipped              |
| <b>04</b> | Subject entity is out of service            |
| <b>10</b> | Unit is not equipped                        |
| <b>11</b> | UC is out of service                        |
| <b>12</b> | UC is in service but failed                 |
| <b>13</b> | FTMI is not equipped                        |
| <b>14</b> | FTMI is out of service                      |
| <b>1F</b> | FTMI is in service but failed               |
| <b>45</b> | IU/TI type NPC failed                       |
| <b>46</b> | NPC Failed or Out of Service                |
| <b>47</b> | IU/TI type NPC                              |
| <b>B7</b> | The associated MXR is In-Service but pested |



## **UTL,CLR,NPC,RT,DL**

### **UTILITY CLEAR**

#### **Explanation Of Command**

This message requests a given facility performance parameter be cleared of the count or state for a single network processing circuit (NPC) or a range of circuits in a facility terminating unit (FTU) or a DS3 unit.

Note that if the remote terminal (RT) or the digital carrier line unit (DL) option is specified during input, the specified parameter clears the count on all digroups in that bank which have the specified parameter.

#### **Command**

##### **Nonhierarchical**

[I.56001]

```
UTL:FRM xy,SEQ ww:CLR,<parameter>,{NPC [s]abc[-[t]def]}|\
RT ffff|DL ffff}!
```

##### **Hierarchical**

[I.56001]

```
UTL:FRM xy,SEQ ww:CLR,<parameter>,{NPC uvmnp[-wxkqr]}|\
RT ffff|DL ffff}!
```

## **Completion Message**

---

### **Nonhierarchical**

---

[O.56001]

M hh:mm:ss xy,ww n UTL CLR <parameter>  
{NPC [s]abc[-[t]def][ NONE] | {RT|DL} ffff MD [g]g} COMPL

### **Hierarchical**

---

[O.56001]

M hh:mm:ss xy,ww n UTL CLR <parameter> {NPC uvmnp[-wxkqr][ NONE] | {RT|\  
DL} ffff MD [g]g} COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.56001.01]

M hh:mm:ss xy,ww n UTL CLR <parameter> NPC [s]abc[-[t]def] {UEQD|\  
BADNPC} DNY

[O.56001.02]

M hh:mm:ss xy,ww n UTL CLR <parameter>[ NPC [s]abc]\  
[ {RT|DL} ffff] COND cc DNY

### **Hierarchical**

---

[O.56001.01]

M hh:mm:ss xy,ww n UTL CLR <parameter> NPC uvmnp[-wxkqr] {UEQD|\  
BADNPC} DNY

[O.56001.02]

M hh:mm:ss xy,ww n UTL CLR <parameter>[ NPC uvmnp]\  
[ {RT|DL} ffff] COND cc DNY

## **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**CLR** - Clear

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number, the first NPC number of a range

**[t]def** - The 3- or 4-digit nonhierarchical NPC number, the last NPC number of a range

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number, the first NPC number of a range

**wxkqr** - Hierarchical NPC number, the last NPC number of a range

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number

The allowable values are presented below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

#### parameter

- One chosen from the list below:

| Parameter | Explanation                                                           |
|-----------|-----------------------------------------------------------------------|
| BER       | Bit Error Rate                                                        |
| BPV       | Bipolar Violation                                                     |
| COFA      | Change Of Frame Alignment                                             |
| CRC       | Cyclic redundancy (CR) code<br>CR checksum errors (CRC-6) in ESF mode |
| ER        | Error Rate (same as BER for D4 framing)                               |
| ERS       | Errored Seconds                                                       |
| FRER      | Framing Error                                                         |
| LOFA      | Loss of Frame Alignment Events                                        |
| OOF       | Out Of Frame                                                          |
| SAFE      | Shelf Alarm Far End count                                             |
| SANE      | Shelf Alarm Near End count                                            |
| SERS      | Severely Errored Seconds                                              |
| SLIP      | Slip count                                                            |

**Note:** Only the BER and SLIP parameters are allowed for Clear-DS1 NPCs.  
SERS, ERS, and SLIP are only individually clearable for domestic NPCs.  
For CEPT NPCs they will be cleared by the PM parameter.

**RT** - Remote terminal (SLC® carrier system)

**DL** - Digital carrier line unit (SLC carrier system)

**ffff** - Bank identification number (0000 through 9999) (SLC carrier system)

**MD** - Mode

**[g]g** - Mode of operation

| <i>[g]g</i> | <i>Explanation</i>                       |
|-------------|------------------------------------------|
| 1           | SLC 96 Carrier Mode 1                    |
| 3           | SLC 96 Carrier Mode 3                    |
| C           | SLC Series 5 Carrier (Feature Package C) |

**UEQD** - Unequipped

**BADNPC** - Bad NPC

The selected parameter is not valid for this NPC.

**cc** - Hexadecimal condition code

| <b>cc</b> | <i>Explanation</i>                                                    |
|-----------|-----------------------------------------------------------------------|
| 04        | Subject entity is out of service                                      |
| 10        | Unit is not equipped                                                  |
| 11        | UC is out of service                                                  |
| 12        | UC is in service but failed                                           |
| 13        | FTMI is not equipped                                                  |
| 14        | FTMI is out of service                                                |
| 1F        | FTMI is in service but failed                                         |
| 24        | Unit type error                                                       |
| 26        | NPC type error                                                        |
| 0B        | Invalid CEPT NPC                                                      |
| 46        | NPC Failed or Out of Service                                          |
| 47        | IU/TI type NPC                                                        |
| 7E        | Bank id number not found                                              |
| A0        | No SAFE alarm for DGP                                                 |
| 0E        | The specified parameter is not applicable to operation mode of the RT |
| A1        | The parameter specified does not match with the NPC type              |

## **UTL,DATE,FORMAT,INT**

### **SET DATE**

#### **Explanation Of Command**

This command sets the date (month, day, year) and the interval at which it will be printed for the DACS II clock. The time (hour, minute, second) can also be set, but not simultaneously with the date.

#### **Command**

[I.51021]

**UTL:FRM xy,SEQ ww:DATE <new-date>[,FORMAT ggg][,INT ii]!**

#### **Completion Message**

[O.51021]

**M hh:mm:ss xy,ww n[vv] UTL DATE aa/bb/cc FORMAT ggg INT ii COMPL**

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

Not applicable.

## Explanation Of Parameters

---

**DATE** - Date

### **new-date**

- Date specified in one of the following formats:

| <i>new-date</i> | <i>Date format</i>                       |
|-----------------|------------------------------------------|
| moda[ce]yr      | Month, followed by day, followed by year |
| damo[ce]yr      | Day, followed by month, followed by year |

**mo** - month  
**da** - day  
**ce** - century  
**yr** - year

The 2-digit century (ce) field is optional. If the user enters a 2-digit number for the year field, DACS II assumes a default value of 19 for the century and accepts only the range of years from 86 through 99. However, any 4-digit century-year entry from 1986 onward is acceptable.

**INT** - Interval

**ii** - Interval at which DACS II will print the date

| <i>ii</i> | <i>Meaning</i>                                        |
|-----------|-------------------------------------------------------|
| 01        | Every hour on the hour                                |
| 02        | Every even hour on the hour                           |
| 04        | Every fourth hour on the hour: 04, 08, 12, 16, 20, 24 |
| 06        | Every sixth hour on the hour: 06, 12, 18, 24          |
| 08        | Every eighth hour on the hour: 08, 16, 24             |
| 12        | Twice daily on the hour: 12, 24                       |
| 24        | Once daily at midnight (default)                      |

**FORMAT** - Format

**ggg** - Date format

The format to be used for interpreting the date from the input message and printing it on PDS output messages.

|     |                                       |
|-----|---------------------------------------|
| ggg | Date format                           |
| MDY | Month/Day/Year (USA format)           |
| DMY | Day/Month/Year (International format) |



**DATE** - Date

**aa** - Month or day

**bb** - Day or Month

**cc** - Year (2 or 4 digits)

The DATE will be displayed in either the USA format or the International format, depending on the value of ggg.

## **UTL,INIT,ALM**

---

### **UTILITIES, ALARM REPORTING**

#### **Explanation Of Command**

---

This message sets the DACS II audio/visual alarm reporting method to either remote only (**a = 2**) or to local and remote (**a = 3**).

#### **Command**

---

[I.51101]

**UTL:FRM xy,SEQ ww:INIT,ALM a!**

#### **Completion Message**

---

[O.51101]

**M hh:mm:ss xy,ww n[vv] UTL INIT ALM a COMPL**

#### **Denial Message**

---

[O.51101.01]

**M hh:mm:ss xy,ww n[vv] UTL INIT ALM a COND cc DNY**

#### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**INIT** - Initialize

**ALM** - Alarm

**a** - Alarm reporting method

- |   |                  |
|---|------------------|
| a | Explanation      |
| 2 | Remote           |
| 3 | Local and Remote |

**cc** - Hexadecimal condition code

**cc** *Explanation*

- |           |                               |
|-----------|-------------------------------|
| <b>03</b> | Subject entity is in service  |
| <b>11</b> | UC is out of service          |
| <b>12</b> | UC is in service but failed   |
| <b>14</b> | FTMI is out of service        |
| <b>15</b> | NPC is unequipped             |
| <b>1F</b> | FTMI is in service but failed |
| <b>0B</b> | Invalid CEPT NPC              |
| <b>44</b> | NPC not IU/TI type            |
| <b>46</b> | NPC Failed or Out of Service  |

## **UTL,LOC**

---

### **UTILITY LOCATION**

#### **Explanation Of Command**

---

This message requests a printout of the physical location of a plug-in entity using the equipment location (EQL) method. A similar method must be used if nonplug-in entities must be located, such as a network processing circuit, main controller, cross-connect network, etc.

#### **Command**

---

[I.56401]

**UTL:FRM xy,SEQ ww:LOC,<entity>!**

#### **Completion Message**

---

[O.56401]

**M hh:mm:ss xy,ww n[vv] UTL LOC <entity> \  
b[-[q]q]-vv hhh[,c[-[q]q]-uu iii] COMPL**

#### **Denial Message**

---

[O.56401.01]

**M hh:mm:ss xy,ww n[vv] UTL LOC <entity> COND cc DNY**

#### **Autonomous Message**

---

Not applicable.

---

## Explanation Of Parameters

---

**LOC** - Location

Physical location

**entity** - Plug-in equipment entity

Main Controller Entities:

| <i>entity</i> | <i>Explanation</i>                              |                 |
|---------------|-------------------------------------------------|-----------------|
| MC            | Main controller                                 |                 |
| CPU           | Central processing unit                         |                 |
| BX            | Bus extender                                    | (SBF/Non-CEF)   |
| MTC           | Maintenance circuit pack                        | (SBF/Non-CEF)   |
| EBX           | Expanded bus extender                           | (CEF/ECEF/ESBF) |
| EMTC          | Expanded maintenance circuit pack               | (CEF/ECEF/ESBF) |
| CI            | Communications interface                        |                 |
| PMEM          | Primary Memory Card, within CPU board           |                 |
| DISK          | Secondary Memory Card, plugs into the CPU board |                 |
| STATUS PANEL  | (Note 1)                                        |                 |

**Note 1:fp** The location of this entity is not on the designation strip. The approximate location is returned in the output message.

The entity CPU cannot be used with UNIT to query the Unit Controller; instead only the entity UC can be used.

**Synchronizer entities:**

*entity    Explanation*

**SYNC 0                    Synchronizer**  
**SYNC 1**

**SYNC 0,TB               Synchronizer Time Base**  
**SYNC 1,TB**

**SYNC 0,TLI 1    Synchronizer Timing Link Interface**  
**SYNC 0,TLI 2**  
**SYNC 0,TLI 3**  
**SYNC 0,TLI 4**  
**SYNC 1,TLI 1**  
**SYNC 1,TLI 2**  
**SYNC 1,TLI 3**  
**SYNC 1,TLI 4**

**SYNC,TLI 3,CRO           Synchronizer Clock Reference Oscillator (Note 2)**

**Note 2:** The location of the CRO is not on the designation strip. It is a Time Base application for TLI slots 3 and 4 on sides 0 and 1.

**Cross-Connect entities:**

| <b>entity</b>                                                                                                        | <b>Explanation</b>              |                    |
|----------------------------------------------------------------------------------------------------------------------|---------------------------------|--------------------|
| CCN 0<br>CCN 1                                                                                                       | Cross-connect network           | (SBF/ESBF/Non-CEF) |
| CCNI 0<br>CCNI 1                                                                                                     | Cross-connect network interface | (SBF/ESBF/Non-CEF) |
| CCB 01<br>CCB 02<br>CCB 03<br>CCB 04<br>CCB 05<br>CCB 06<br>CCB 11<br>CCB 12<br>CCB 13<br>CCB 14<br>CCB 15<br>CCB 16 | Cross-connect buffer            | (SBF/ESBF/Non-CEF) |
| ECCN 0<br>ECCN 1                                                                                                     | Expanded cross-connect network  | (CEF/ECEF)         |
| CCI 0<br>CCI 1                                                                                                       | Clock and control interface     | (CEF/ECEF)         |
| BT 01<br>BT 02<br>BT 11<br>BT 12                                                                                     | Bus terminator                  | (CEF/ECEF)         |

| entity   | Explanation                                |
|----------|--------------------------------------------|
| ETSI 001 | Expanded Time Slot Interchanger (CEF/ECEF) |
| ETSI 002 |                                            |
| ETSI 003 |                                            |
| ETSI 004 |                                            |
| ETSI 005 |                                            |
| ETSI 006 |                                            |
| ETSI 007 |                                            |
| ETSI 008 |                                            |
| ETSI 009 |                                            |
| ETSI 010 |                                            |
| ETSI 011 |                                            |
| ETSI 012 |                                            |
| ETSI 013 |                                            |
| ETSI 014 |                                            |
| ETSI 015 |                                            |
| ETSI 016 |                                            |
| ETSI 101 | Expanded Time Slot Interchanger (CEF/ECEF) |
| ETSI 102 |                                            |
| ETSI 103 |                                            |
| ETSI 104 |                                            |
| ETSI 105 |                                            |
| ETSI 106 |                                            |
| ETSI 107 |                                            |
| ETSI 108 |                                            |
| ETSI 109 |                                            |
| ETSI 110 |                                            |
| ETSI 111 |                                            |
| ETSI 112 |                                            |
| ETSI 113 |                                            |
| ETSI 114 |                                            |
| ETSI 115 |                                            |
| ETSI 116 |                                            |



**UNIT Common Equipment entities:**

*entity*    **location**

*entity*    **location**

|         |                                               |
|---------|-----------------------------------------------|
| UNIT 01 | NPC 0001                                      |
| UNIT 02 | NPC 0161                                      |
| UNIT 03 | NPC 0321                                      |
| UNIT 04 | NPC 0481                                      |
| UNIT 05 | NPC 0641                                      |
| UNIT 06 | NPC 0801                                      |
| UNIT 07 | NPC 0961 (UNITS 07 through UNIT 16, CEF/ECEF) |
| UNIT 08 | NPC 1121                                      |
| UNIT 09 | NPC 1281                                      |
| UNIT 10 | NPC 1441                                      |
| UNIT 11 | NPC 1601                                      |
| UNIT 12 | NPC 1761                                      |
| UNIT 13 | NPC 1921                                      |
| UNIT 14 | NPC 2081                                      |
| UNIT 15 | NPC 2241                                      |
| UNIT 16 | NPC 2401                                      |

UNIT [q]q,UC            Unit controller

**FTU entities:**

*entity*            **Explanation**

UNIT [q]q,UBX            Unit bus extender

UNIT [q]q,FTMI b        Facility terminating module interface  
(b = 1 through 4)

UNIT [q]q,FC 0b            Format converter

UNIT [q]q,FC 1b

**DSPU entities:**

*entity*            **Explanation**

UNIT [q]q,DSPI            Digital signal processing interface

If the unit is equipped as a DS3 Unit:

**UNIT Common Equipment entities:**

| <i>entity</i>   | <i>Explanation</i>                        |
|-----------------|-------------------------------------------|
| UNIT [q]q       | Unit [q]q's Protection MXR (1 through 16) |
| UNIT [q]q,UC    | Unit Controller                           |
| UNIT [q]q,MXR d | Multiplexer (d = P,1 through 6)           |
| UNIT [q]q,MIU d | Multiple Interface Unit                   |
| UNIT [q]q,FLI k | Facility Line Interface (k = S or P)      |
| UNIT [q]q,FMT s | Formatter (s = 0 or 1)                    |

**Network Processing Circuit entities of an FTU:**

| <i>entity</i>       | <i>Explanation</i>         |
|---------------------|----------------------------|
| NPC [s]abc[-[t]def] | Nonhierarchical NPC number |
| NPC uvmpnp[-wxkqr]  | Hierarchical NPC number    |

**Network Processing Circuit entities of a DS3U:**

| <i>entity</i>       | <i>Explanation</i>         |
|---------------------|----------------------------|
| NPC [s]abc[-[t]def] | Nonhierarchical NPC number |
| NPC uvmpnp[-wxkqr]  | Hierarchical NPC number    |

uv, wx - Unit number  
m, k - Module number  
np, qr - NPC number within the module

If an NPC is in an FTU, the command will return the location of the Dual Digroup Card that processes the NPC.

The valid nonhierarchical FTU NPC numbers are:

If NPC numbers are expressed in three digits, the valid values are:

**DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)**

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

The valid hierarchical FTU NPC numbers are:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

If an NPC is in a DS3 Unit, the command will return the location of the Service MXR that processes the NPC.

Network Processing Circuit entities of a DSPU:

*entity*

NPC [s]abc[-[t]def],SIDE-s  
NPC uvmnp[-wxkqr],SIDE-s

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

As shown above, the command will return the location of the DSPC pack including the side information, the value of "s" can be either 0 or 1.

The valid nonhierarchical DSPU NPC numbers are:

If NPC numbers are expressed in three digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-002</b> | <b>161-162</b> | <b>321-322</b> | <b>481-482</b> | <b>641-642</b> | <b>801-802</b> |
| <b>021-022</b> | <b>181-182</b> | <b>341-342</b> | <b>501-502</b> | <b>661-662</b> | <b>821-822</b> |
| <b>041-042</b> | <b>201-202</b> | <b>361-362</b> | <b>521-522</b> | <b>681-682</b> | <b>841-842</b> |
| <b>061-062</b> | <b>221-222</b> | <b>381-382</b> | <b>541-542</b> | <b>701-702</b> | <b>861-862</b> |
| <b>081-082</b> | <b>241-242</b> | <b>401-402</b> | <b>561-562</b> | <b>721-722</b> | <b>881-882</b> |
| <b>101-102</b> | <b>261-262</b> | <b>421-422</b> | <b>581-582</b> | <b>741-742</b> | <b>901-902</b> |
| <b>121-122</b> | <b>281-282</b> | <b>441-442</b> | <b>601-602</b> | <b>761-762</b> | <b>921-922</b> |
| <b>141-142</b> | <b>301-302</b> | <b>461-462</b> | <b>621-622</b> | <b>781-782</b> | <b>941-942</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0002</b> | <b>0161-0162</b> | <b>0321-0322</b> | <b>0481-0482</b> |
| <b>0021-0022</b> | <b>0181-0182</b> | <b>0341-0342</b> | <b>0501-0502</b> |
| <b>0041-0042</b> | <b>0201-0202</b> | <b>0361-0362</b> | <b>0521-0522</b> |
| <b>0061-0062</b> | <b>0221-0222</b> | <b>0381-0382</b> | <b>0541-0542</b> |
| <b>0081-0082</b> | <b>0241-0242</b> | <b>0401-0402</b> | <b>0561-0562</b> |
| <b>0101-0102</b> | <b>0261-0262</b> | <b>0421-0422</b> | <b>0581-0582</b> |
| <b>0121-0122</b> | <b>0281-0282</b> | <b>0441-0442</b> | <b>0601-0602</b> |
| <b>0141-0142</b> | <b>0301-0302</b> | <b>0461-0462</b> | <b>0621-0622</b> |

| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0642</b> | <b>0801-0802</b> | <b>0961-0962</b> | <b>1121-1122</b> |
| <b>0661-0662</b> | <b>0821-0822</b> | <b>0981-0982</b> | <b>1141-1142</b> |
| <b>0681-0682</b> | <b>0841-0842</b> | <b>1001-1002</b> | <b>1161-1161</b> |
| <b>0701-0702</b> | <b>0861-0862</b> | <b>1021-1022</b> | <b>1181-1182</b> |
| <b>0721-0722</b> | <b>0881-0882</b> | <b>1041-1042</b> | <b>1201-1202</b> |
| <b>0741-0742</b> | <b>0901-0902</b> | <b>1061-1062</b> | <b>1221-1222</b> |
| <b>0761-0762</b> | <b>0921-0922</b> | <b>1081-1082</b> | <b>1241-1242</b> |
| <b>0781-0782</b> | <b>0941-0942</b> | <b>1101-1102</b> | <b>1261-1262</b> |
| <br>             |                  |                  |                  |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1282</b> | <b>1441-1442</b> | <b>1601-1602</b> | <b>1761-1762</b> |
| <b>1301-1302</b> | <b>1461-1462</b> | <b>1621-1622</b> | <b>1781-1782</b> |
| <b>1321-1322</b> | <b>1481-1482</b> | <b>1641-1642</b> | <b>1801-1802</b> |
| <b>1341-1342</b> | <b>1501-1502</b> | <b>1661-1662</b> | <b>1821-1822</b> |
| <b>1361-1362</b> | <b>1521-1522</b> | <b>1681-1682</b> | <b>1841-1842</b> |
| <b>1381-1382</b> | <b>1541-1542</b> | <b>1701-1702</b> | <b>1861-1862</b> |
| <b>1401-1402</b> | <b>1561-1562</b> | <b>1721-1722</b> | <b>1881-1882</b> |
| <b>1421-1422</b> | <b>1581-1582</b> | <b>1741-1742</b> | <b>1901-1902</b> |
| <br>             |                  |                  |                  |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-1922</b> | <b>2081-2082</b> | <b>2241-2242</b> | <b>2401-2402</b> |
| <b>1941-1942</b> | <b>2101-2102</b> | <b>2261-2262</b> | <b>2421-2422</b> |
| <b>1961-1962</b> | <b>2121-2122</b> | <b>2281-2282</b> | <b>2441-2442</b> |
| <b>1981-1982</b> | <b>2141-2142</b> | <b>2301-2302</b> | <b>2461-2462</b> |
| <b>2001-2002</b> | <b>2161-2162</b> | <b>2321-2322</b> | <b>2481-2482</b> |
| <b>2021-2022</b> | <b>2181-2182</b> | <b>2341-2342</b> | <b>2501-2502</b> |
| <b>2041-2042</b> | <b>2201-2202</b> | <b>2361-2362</b> | <b>2521-2522</b> |
| <b>2061-2062</b> | <b>2221-2222</b> | <b>2381-2382</b> | <b>2541-2542</b> |

If NPC numbers are expressed in three digits, the valid values are:

SR and MJ type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1  | Unit<br>2  | Unit<br>3  | Unit<br>4  | Unit<br>5  | Unit<br>6  |
|------------|------------|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| <b>001</b> | <b>161</b> | <b>321</b> | <b>481</b> | <b>641</b> | <b>801</b> |
| <b>021</b> | <b>181</b> | <b>341</b> | <b>501</b> | <b>661</b> | <b>821</b> |
| <b>041</b> | <b>201</b> | <b>361</b> | <b>521</b> | <b>681</b> | <b>841</b> |
| <b>061</b> | <b>221</b> | <b>381</b> | <b>541</b> | <b>701</b> | <b>861</b> |
| <b>081</b> | <b>241</b> | <b>401</b> | <b>561</b> | <b>721</b> | <b>881</b> |
| <b>101</b> | <b>261</b> | <b>421</b> | <b>581</b> | <b>741</b> | <b>901</b> |
| <b>121</b> | <b>281</b> | <b>441</b> | <b>601</b> | <b>761</b> | <b>921</b> |
| <b>141</b> | <b>301</b> | <b>461</b> | <b>621</b> | <b>781</b> | <b>941</b> |

If NPC numbers are expressed in four digits, the valid values are:

SR and MJ type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1   | Unit<br>2   | Unit<br>3   | Unit<br>4   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0001</b> | <b>0161</b> | <b>0321</b> | <b>0481</b> |
| <b>0021</b> | <b>0181</b> | <b>0341</b> | <b>0501</b> |
| <b>0041</b> | <b>0201</b> | <b>0361</b> | <b>0521</b> |
| <b>0061</b> | <b>0221</b> | <b>0381</b> | <b>0541</b> |
| <b>0081</b> | <b>0241</b> | <b>0401</b> | <b>0561</b> |
| <b>0101</b> | <b>0261</b> | <b>0421</b> | <b>0581</b> |
| <b>0121</b> | <b>0281</b> | <b>0441</b> | <b>0601</b> |
| <b>0141</b> | <b>0301</b> | <b>0461</b> | <b>0621</b> |
| Unit<br>5   | Unit<br>6   | Unit<br>7   | Unit<br>8   |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0641</b> | <b>0801</b> | <b>0961</b> | <b>1121</b> |
| <b>0661</b> | <b>0821</b> | <b>0981</b> | <b>1141</b> |
| <b>0681</b> | <b>0841</b> | <b>1001</b> | <b>1161</b> |
| <b>0701</b> | <b>0861</b> | <b>1021</b> | <b>1181</b> |
| <b>0721</b> | <b>0881</b> | <b>1041</b> | <b>1201</b> |
| <b>0741</b> | <b>0901</b> | <b>1061</b> | <b>1221</b> |
| <b>0761</b> | <b>0921</b> | <b>1081</b> | <b>1241</b> |
| <b>0781</b> | <b>0941</b> | <b>1101</b> | <b>1261</b> |

| Unit<br>9   | Unit<br>10  | Unit<br>11  | Unit<br>12  |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1281</b> | <b>1441</b> | <b>1601</b> | <b>1761</b> |
| <b>1301</b> | <b>1461</b> | <b>1621</b> | <b>1781</b> |
| <b>1321</b> | <b>1481</b> | <b>1641</b> | <b>1801</b> |
| <b>1341</b> | <b>1501</b> | <b>1661</b> | <b>1821</b> |
| <b>1361</b> | <b>1521</b> | <b>1681</b> | <b>1841</b> |
| <b>1381</b> | <b>1541</b> | <b>1701</b> | <b>1861</b> |
| <b>1401</b> | <b>1561</b> | <b>1721</b> | <b>1881</b> |
| <b>1421</b> | <b>1581</b> | <b>1741</b> | <b>1901</b> |
| <br>        |             |             |             |
| Unit<br>13  | Unit<br>14  | Unit<br>15  | Unit<br>16  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1921</b> | <b>2081</b> | <b>2241</b> | <b>2401</b> |
| <b>1941</b> | <b>2101</b> | <b>2261</b> | <b>2421</b> |
| <b>1961</b> | <b>2121</b> | <b>2281</b> | <b>2441</b> |
| <b>1981</b> | <b>2141</b> | <b>2301</b> | <b>2461</b> |
| <b>2001</b> | <b>2161</b> | <b>2321</b> | <b>2481</b> |
| <b>2021</b> | <b>2181</b> | <b>2341</b> | <b>2501</b> |
| <b>2041</b> | <b>2201</b> | <b>2361</b> | <b>2521</b> |
| <b>2061</b> | <b>2221</b> | <b>2381</b> | <b>2541</b> |

The valid hierarchical DSPU NPC numbers are:

MB type NPC numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-8</b> | <b>01-02</b> |

SR and MJ NPC numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

| Unit         | Module     | NPC       |
|--------------|------------|-----------|
| <b>01-16</b> | <b>1-8</b> | <b>01</b> |

**b, c** - Bay number (1 through 7)

The bay in which the entity is located.

**[q]q** - Unit number (1 through 16)

**vv,uu** - Entity height, in inches.

For an FTU, the value is the number of inches from the bottom of the unit shelf to the center of the entity. The possible vv and uu values are:

02, 06, 10, 14, and 18 inches

For a DSPU the value of variables vv and uu can only be 06.

**vv,uu** - Entity height, in inches.

For an FTU, the value is the number of inches from the bottom of the unit shelf to the center of the entity. The possible vv and uu values are:

02, 06, 10, 14, and 18 inches

For a DS3U the value of variables vv and uu can only be 06.

**hhh,iii**

- Entity horizontal location in inches

Entity horizontal distance from the left front side of the bay, approximately 1-1/4 inches to the right of the bay upright, in 1/8 inch increments, to the center of the circuit pack slot of the entity (000 through 158).

The values for any entity will be the same as those shown on the designation strips for that entity, located above the entity. Note, however, that for duplicated entities the side (0 or 1) value precedes the name on the designation strip. **cc** - Hexadecimal condition code

**cc**    *Explanation*

**97**    Entity can't be addressed in this configuration



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## UTL,QRY,ALL

---

### UTILITY QUERY ALL

#### Explanation Of Command

---

This message requests a printout on a specified facility performance parameter for all Network Processing Circuits (NPCs).

#### Command

---

[I.56031]

UTL:FRM xy,SEQ ww:QRY,<parameter>,ALL!

#### Completion Message

---

#### Nonhierarchical

---

[O.56031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> ALL \
NPCS [s]abc-[t]def[ RESET] TOT nnnn 5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM
.
.
.
```

**Note:** The above message applies to a Facility Terminating Module (FTM) and parameter other than ER and BER.

[O.56031]

M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> ALL \\  
NPCS [s]abc-[t]def[ RESET] TOT nnnn 5 LN MSG:  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX EOM

.  
.  
.

**Note:** The above message applies to a DS3 module (that is, a Multiplexer) and parameter other than ER and BER.

[O.56032]

M hh:mm:ss xy,ww n[vv] UTL QRY BER ALL NPCS [s]abc-[t]def\  
[ RESET] TOT nnnn 5 LN MSG:  
XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX XX XX XX EOM

.  
.  
.

**Note:** The above message applies to a Facility Terminating Module (FTM) and either parameter ER or BER.

[O.56032]

M hh:mm:ss xy,ww n[vv] UTL QRY BER ALL NPCS [s]abc-[t]def\  
[ RESET] TOT nnnn 5 LN MSG:  
XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX  
XX XX XX XX XX XX XX EOM

M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> ALL COMPL

**Note:** The above message applies to a DS3 module (that is, a Multiplexer) and either parameter ER or BER.

## Hierarchical

[O.56031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> ALL NPCS uvmnp-uvmqr\  
[ RESET] TOT nnnn 5 LN MSG:  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx EOM  
.  
.  
.
```

**Note:** The above message applies to a Facility Terminating Module (FTM) and parameter other than ER and BER.

[O.56031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> ALL NPCS uvmnp-uvmqr\  
[ RESET] TOT nnnn 5 LN MSG:  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx EOM  
.  
.  
.
```

**Note:** The above message applies to a DS3 module (that is, a Multiplexer) and parameter other than ER and BER.

[O.56032]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BER ALL NPCS uvmnp-uvmqr[ RESET] \  
TOT nnnn 5 LN MSG:  
xx xx xx xx xx xx xx xx xx xx  
xx xx xx xx xx xx xx xx xx xx  
xx xx xx xx xx xx xx xx xx xx  
xx xx xx xx xx xx xx xx xx xx EOM  
.  
.  
.
```

**Note:** The above message applies to a Facility Terminating Module (FTM) and either parameter ER or BER.

[O.56032]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BER ALL NPCS uvmnp-uvmq[ RESET] \
TOT nnnn 5 LN MSG:
XX XX XX XX XX XX XX
XX XX XX XX XX XX XX
XX XX XX XX XX XX XX
XX XX XX XX XX XX XX EOM
```

M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> ALL COMPL

**Note:** The above message applies to a DS3 module (that is, a Multiplexer) and either parameter ER or BER.

[O.56033]

M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> ALL NPCS TOT 0000 COMPL

[O.56034]

M hh:mm:ss xy,ww n[vv] UTL QRY BER ALL NPCS TOT 0000 COMPL

### **Denial Message**

---

Not applicable.

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**ALL** - All

#### **parameter**

- Facility performance parameter

The parameter and its period of measurement are chosen from the set below:

| <i>parameter</i> | <i>Explanation</i>                         | <i>Period of measurement</i> |
|------------------|--------------------------------------------|------------------------------|
| BER              | Bit Error Rate                             | Total since local midnight   |
| BPV              | Bipolar Violation                          | Total since local midnight   |
| COFA             | Change Of Frame Alignment                  | Total since local midnight   |
| CGA              | Carrier Group Alarm                        | Total since local midnight   |
| CRC              | Cyclic Redundancy Code                     | Total since local midnight   |
| ER               | Error Rate<br>(same as BER for D4 framing) | Previous 24-hour total       |
| ERS              | Errored Seconds                            | Previous 24-hour total       |
| FRER             | Framing Error                              | Total since local midnight   |
| OOF              | Out Of Frame                               | Total since local midnight   |
| SERS             | Severely Errored Seconds                   | Previous 24-hour total       |
| SLIP             | Slip count                                 | Previous 24-hour total       |
| SAFE             | Shelf Alarm Far End count                  | Total since local midnight   |
| SANE             | Shelf Alarm Near End count                 | Total since local midnight   |

**Note:** If the frame contains NPCs that are provisioned with D4 framing only the ER parameter should be used, the BER parameter should not be used.

A message segment will be omitted for:

- Unequipped FTMs
  - DS3 modules in the case of BPV request
- Equipped FTM with no equipped NPC
- Equipped FTM with all NPCs having zero value of <parameter>
- Equipped CEPT FTM with all NPCs being PA type but with a parameter other than BER.

**xxxxxx** - Parameter count values

Dashes ("-") will be output for NPCs that are not equipped or are provisioned with a type unapplicable to the parameter. If an entire FTM is unequipped or all its NPCs are dashes, the segment is skipped.

**xx** - BER states

|           |                                            |
|-----------|--------------------------------------------|
| <i>xx</i> | <i>State</i>                               |
| MJ        | Major                                      |
| MN        | Minor                                      |
| ER        | Error                                      |
| CL        | Clear (a facility type NPC without errors) |
| --        | Unequipped NPC                             |

Unless the CHG::NPC, TS0 command is used to redefine the active value of bit 4 of CTS 0, the RBER values are:

*RBER Explanation*

|   |          |
|---|----------|
| 1 | Inactive |
| 0 | Active   |

NPC(S) - Network processing circuit(s)

**[s]abc** - The first 3- or 4-digit nonhierarchical NPC number in a module

**[t]def** - The last 3- or 4-digit nonhierarchical NPC number in a module

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |

| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number of the first NPC in a module

**uvmqr** - Hierarchical NPC number of the last NPC in a module

**uv,** - Unit number

**m,** - Module number

**np, qr** - NPC number within the module

The allowable values are presented below:

DE and DS type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

The parameter value for the first NPC is listed in the first position (upper left corner) of the first line of each message segment. The value for the last NPC occurs in the last position (lower right corner).

**TOT** - Total

**nnnn** - Cumulative count of NPCs returning nonzero states or values

The last nnnn, the one printed out in the last message module, gives the total number of NPCs with nonzero states or values in the frame.

**RESET** - Reset

Indicates that one or more autonomous resets have occurred.



---

## UTL,QRY,ALL,COMMON

---

### QUERY ALL COMMON EQUIPMENT

#### Explanation Of Command

---

This message is used to request reports on the out-of-service, fail, or pest status of the common frame equipment. Common frame equipment includes the administrative links, cross-connects, clock and control interfaces or cross-connect network interfaces (CEF or nonCEF, respectively), synchronizers, clock reference oscillator, timing link interfaces, time slot interchangers and expanded time slot interchangers.

#### Command

---

[I.53104]

UTL:FRM xy,SEQ ww:QRY,ALL,COMMON!

#### Completion Message

---

[O.53104]

M hh:mm:ss xy,ww n[vv] UTL QRY ALL COMMON 4 LN MSG:

OOS g h i j k l m n o p

FAIL g h i j k l m n o p

PEST g h i j k l m n o p EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALL COMMON 4 LN MSG:

SYNC ofp ófp CRO ofp

TLI ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp  
a b c d e f g h i j k l m n o p EOM

The next segment(s) describes the CCN hardware but the format depends upon whether the frame is a CEF or nonCEF.

For DACS II nonCEF frames there are two segments:

M hh:mm:ss xy,ww n[vv] UTL QRY ALL TOTAL TSIS tt oo ff pp 5 LN MSG:  
11 ofp ofp 12 ofp ofp 13 ofp ofp 14 ofp ofp 15 ofp ofp 16 ofp ofp  
21 ofp ofp 22 ofp ofp 23 ofp ofp 24 ofp ofp 25 ofp ofp 26 ofp ofp  
31 ofp ofp 32 ofp ofp 33 ofp ofp 34 ofp ofp 35 ofp ofp 36 ofp ofp  
41 ofp ofp 42 ofp ofp 43 ofp ofp 44 ofp ofp 45 ofp ofp 46 ofp ofp EOP

M hh:mm:ss xy,ww n[vv] UTL QRY ALL TOTAL TSIS tt oo ff pp 3 LN MSG:  
51 ofp ofp 52 ofp ofp 53 ofp ofp 54 ofp ofp 55 ofp ofp 56 ofp ofp  
61 ofp ofp 62 ofp ofp 63 ofp ofp 64 ofp ofp 65 ofp ofp 66 ofp ofp EOM

For DACS II CEF frames there is only one segment:

M hh:mm:ss xy,ww n[vv] UTL QRY ALL TOTAL ETSIS tt oo ff pp 5 LN MSG:  
01 ofp ofp 02 ofp ofp 03 ofp ofp 04 ofp ofp  
05 ofp ofp 06 ofp ofp 07 ofp ofp 08 ofp ofp  
09 ofp ofp 10 ofp ofp 11 ofp ofp 12 ofp ofp  
13 ofp ofp 14 ofp ofp 15 ofp ofp 16 ofp ofp EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALL COMMON COMPL

### Denial Message

---

Not applicable.

### Autonomous Message

---

Not applicable.

### Explanation Of Parameters

---

**ALL** - All

**COMMON** - Common

**OOS** - Out of service

**FAIL** - Fail

**PEST** - Pest

For the OOS, FAIL and PEST keywords, variables g through p each represent a frame entity. The values of these variables give the OOS, FAIL, or PEST status of the associated entity. Values are interpreted using the table below. The entity associated with a given variable is given following the explanation of PEST below.

| Value | OOS            | FAIL           | PEST           |
|-------|----------------|----------------|----------------|
| 1     | out-of-service | failed         | pested         |
| 0     | in service     | not failed     | unpested       |
| -     | not applicable | not applicable | not applicable |

to the particular entity. For example, an unequipped circuit would display a "-" in the position of its OOS, FAIL and PEST indicators g through p.

The keyword PEST is used to indicate that error reporting is disabled. Out-of-service (OOS) entities and entities related to a side that is out of service are pested to prevent error messages from being reported to the main controller. Error reporting is undesirable if an entity is OOS since it would interrupt normal operations by repeatedly interrupting the microprocessor.

- g** - Link 1
- h** - Link 2
- i** - Link 3
- j** - Link 4
- k** - Link 5
- l** - Link 6
- m** - XC0 (cross-connect 0)
- n** - XC1 (cross-connect 1)

#### CEF frame

- o** - CCI 0 (clock and control interface 0)
- p** - CCI 1 (clock and control interface 1)

#### nonCEF frame

- o** - CCNI (cross-connect network interface 0)
- p** - CCNI (cross-connect network interface 1)

**SYNC** - Synchronizer

**ofp** - Side 0 synchronizer status

**o** - Out of service  
**f** - Fail  
**p** - Pest

**ofp** - Side 1 synchronizer status

**o** - Out of service  
**f** - Fail  
**p** - Pest

**CRO** - Clock reference oscillator

**ofp** - CRO status

**o** - Out of service  
**f** - Fail  
**p** - Pest

To aid in interpreting the variables associated with the timing link interface the following lines from the message are printed here for reference.

|<----- Side 0 ----->|<----- Side 1 ----->|

| TLI | ofp<br>a | ofp<br>b | ofp<br>c | ofp<br>d | ofp<br>e | ofp<br>f | ofp<br>g | ofp<br>h | ofp<br>i | ofp<br>j | ofp<br>k | ofp<br>l | ofp<br>m | ofp<br>n | ofp<br>o | ofp<br>p | EOM |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----|
| 1   | 1        | 2        | 2        | 3        | 3        | 4        | 4        | 1        | 1        | 2        | 2        | 3        | 3        | 4        | 4        | TLI No.  |     |
| 0   | 1        | 0        | 1        | 0        | 1        | 0        | 1        | 0        | 1        | 0        | 1        | 0        | 1        | 0        | 1        | SSP No.  |     |

**TLI** - Timing link interface

**ofp** - Side 0 TLI status

**o** - Out of service  
**f** - Fail  
**p** - Pest

**ofp** - Side 1 TLI status

**o** - Out of service  
**f** - Fail  
**p** - Pest

**TLI** - Timing link interface

There are four TLIs in each synchronizer side and each TLI has two synchronizer synchronization ports (SSP) for a total of eight SSPs per side. Variables a through p represent these SSPs and are associated with each TLI as shown below. The values of a through p give the priority of each SSP as a synchronization source. Priorities range in value from 1 through 8 and are interpreted as shown below.

**1** - Highest priority  
**8** - Lowest priority

**a** - TLI 1 SSP 0 priority  
**b** - TLI 1 SSP 1 priority

**c** - TLI 2 SSP 0 priority  
**d** - TLI 2 SSP 1 priority

**e** - TLI 3 SSP 0 priority  
**f** - TLI 4 SSP 1 priority

**g** - TLI 4 SSP 0 priority  
**h** - TLI 4 SSP 1 priority

**i** - TLI 1 SSP 0 priority  
**j** - TLI 1 SSP 1 priority

**k** - TLI 2 SSP 0 priority  
**l** - TLI 2 SSP 1 priority

**m** - TLI 3 SSP 0 priority  
**n** - TLI 3 SSP 1 priority

**o** - TLI 4 SSP 0 priority  
**p** - TLI 4 SSP 1 priority

**TSI** - Time slot interchanger

**ETSI** - Expanded time slot interchanger

**f** - FROM unit (1 through 6)  
**t** - TO Unit (1 through 6)

**ofp** - Side 0 TLI status

**o** - Out of service  
**f** - Fail  
**p** - Pest

**ofp** - Side 1 TLI status

**o** - Out of service

**f** - Fail

**p** - Pest

**TSIS** - Time slot interchanger

**ETSIS** - Expanded time slot interchangers

**tt** - Total number of equipped TSIs or ETSIs

**oo** - Total number of out-of-service TSIs or ETSIs.

**ff** - Total number of failed TSIs or ETSIs.

**pp** - Total number of pested TSIs or ETSIs.

## **UTL, QRY, ALL, UNIT**

### **QUERY ALL**

#### **Explanation Of Command**

This message is used to request reports on the out-of-service, fail, or pest status of the entire DACS II frame, the common frame equipment, or the equipment in a specific unit.

The text of the output message varies depending on the input message format and immediately follows the input format.

**Note:** The odd and even DSPU NPCs do not have independent service states.

#### **Command**

[I.53101]

**UTL:FRM xy,SEQ ww:QRY,ALL[,UNIT [q]q]!**

## Completion Message

---

### Nonhierarchical

---

The response to UTL::QRY,ALL starts with:

[O.53101]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL COMMON 4 LN MSG:
OOS g h i j k l m n o p
FAIL g h i j k l m n o p
PEST g h i j k l m n o p EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL COMMON 4 LN MSG:
SYNC ofp ófp CRO ofp
TLI ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp
a b c d e f g h i j k l m n o p EOM
```

For DACS II Non-CEF frames, the next segment describes the CCN hardware:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL TOTAL TSIS tt oo ff pp 5 LN MSG:
11 ofp ófp 12 ofp ófp 13 ofp ófp 14 ofp ófp 15 ofp ófp 16 ofp ófp
21 ofp ófp 22 ofp ófp 23 ofp ófp 24 ofp ófp 25 ofp ófp 26 ofp ófp
31 ofp ófp 32 ofp ófp 33 ofp ófp 34 ofp ófp 35 ofp ófp 36 ofp ófp
41 ofp ófp 42 ofp ófp 43 ofp ófp 44 ofp ófp 45 ofp ófp 46 ofp ófp EOP
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL TOTAL TSIS tt oo ff pp 3 LN MSG:
51 ofp ófp 52 ofp ófp 53 ofp ófp 54 ofp ófp 55 ofp ófp 56 ofp ófp
61 ofp ófp 62 ofp ófp 63 ofp ófp 64 ofp ófp 65 ofp ófp 66 ofp ófp EOM
```

For DACS II CEF frames, the following segment describes the ECCN hardware:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL TOTAL ETSIS tt oo ff pp 5 LN MSG:
01 ofp ófp 02 ofp ófp 03 ofp ófp 04 ofp ófp
05 ofp ófp 06 ofp ófp 07 ofp ófp 08 ofp ófp
09 ofp ófp 10 ofp ófp 11 ofp ófp 12 ofp ófp
13 ofp ófp 14 ofp ófp 15 ofp ófp 16 ofp ófp EOM
```



If one or more FTU is equipped, the FTU segment shown below will be output:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL FTU 3 LN MSG:
UNIT [q]q UC ofp FTMI ofp ofp ofp ofp [CCB ofp ofp]
FC ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp EOM
```

If one or more DS3U is equipped, the DS3U segment shown below will be output:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL DS3U 3 LN MSG:
UNIT [q]q UC ofp FLI ofp ofp FMT ofp ofp [CCB ofp ofp]
MXR ofp ofp ofp ofp ofp ofp ofp MIU ofp ofp ofp ofp ofp ofp EOM
```

If one or more DSPU is equipped, the DSPU segment shown below will be output:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q UC aaa DSPI bbb [CCB rfr sss] EOM
```

Then, the output message continues with information about individual NPCs. One output segment will be printed for each FTM, each MXR, or each unit in the case of a DSPU.

If an equipped FTM has at least one NPC in the PEST, FAIL, or OOS state, the output segment for a DS1 FTM, shown below, will be generated:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL FTU NPCS [s]aaa-[t]bbb tt 5 LN MSG:
ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp OOS oo FAIL ff PEST pp
ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp
ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp
ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp EOM
```

If a DS3U MXR has at least one NPC in the PEST, FAIL, or OOS state, the output segment for a DS3U MXR, shown below, will be generated:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL DS3U NPCS [s]aaa-[t]bbb tt 5 LN MSG:
ofp ofp ofp ofp ofp ofp ofp ofp OOS oo FAIL ff PEST pp
ofp ofp ofp ofp ofp ofp ofp
ofp ofp ofp ofp ofp ofp ofp
ofp ofp ofp ofp ofp ofp ofp EOM
```

If a DSPU has at least one NPC in the PEST, FAIL, or OOS state, the output segment for DSPU NPCs, shown below, will be generated:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL DSPU NPCS [s]aaa-[t]bbb 3 LN MSG:
[z]zzz ofp ofp [z]zzz ofp ofp [z]zzz ofp ofp [z]zzz ofp ofp
[z]zzz ofp ofp [z]zzz ofp ofp [z]zzz ofp ofp [z]zzz ofp ofp EOM
```

For an equipped FTM/MXR/DSPU with no equipped NPC in PEST, FAIL and/or OOS state, the following output segment will be generated:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL {FTU|DS3U|DSPU} NPCS [s]aaa-[t]bbb tt 2 LN MSG:
OOS oo FAIL oo PEST oo EOM
```

If an FTM/MXR/DSPU is not equipped or if it is equipped but has no NPCs equipped, the message segment for that FTM/MXR/DSPU will not appear.

The following segment is output to complete the message:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL COMPL
```

The response to UTL::QRY,ALL,UNIT starts with:

For an FTU (Facility Terminating Unit):

[O.53101]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL FTU UNIT [q]q 3 LN MSG:
UC ofp FTMI ofp ofp ofp ofp [CCB ofp ofp]
FC ofp ofp ofp ofp ofp ofp ofp ofp EOM
```

This message will be followed by up to 4 of the following segments depending on the FTM equipage:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q FTU NPCS [s]aaa-[t]bbb tt 5 LN MSG:
ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp 00S oo FAIL ff PEST pp
ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp
ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp
ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp EOM
```

For a DS3U:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL DS3U UNIT [q]q 3 LN MSG:
UC ofp FLI ofp ofp FMT ofp ofp [CCB ofp ofp]
MXR ofp ofp ofp ofp ofp ofp ofp ofp MIU ofp ofp ofp ofp ofp ofp ofp EOM
```

This message is followed by up to 7 of the following segments depending on the MXR equipage:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q DS3U NPCS [s]aaa-[t]bbb tt 5 LN MSG:
ofp ofp ofp ofp ofp ofp ofp ofp 00S oo FAIL ff PEST pp
ofp ofp ofp ofp ofp ofp ofp
ofp ofp ofp ofp ofp ofp ofp
ofp ofp ofp ofp ofp ofp ofp EOM
```

For a Digital Signal Processing Unit (DSPU):

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q UC aáa DSPI bbb [CCB rfr sss] EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q DSPU NPCS [s]aaa-[t]bbb tt 3 LN MSG:
[z]zzz ofp ofp [z]zzz ofp ofp [z]zzz ofp ofp [z]zzz ofp ofp
[z]zzz ofp ofp [z]zzz ofp ofp [z]zzz ofp ofp [z]zzz ofp ofp EOM
```

For an equipped FTM/MXR/DSPU with no equipped NPC in PEST, FAIL and/or OOS state, the following segment will be generated:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q {FTU|DS3U|DSPU} NPCS [s]aaa-[t]bbb
tt 2 LN MSG:
OOS 00 FAIL 00 PEST 00 EOM
```

If an FTM/MXR/DSPU is not equipped or if it is equipped but has no NPCs equipped, the message segment for that FTM/MXR/DSPU will not appear.

The following segment is output to complete the message:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q COMPL
```

## Hierarchical

The response to UTL::QRY ALL starts with:

[O.53101]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL COMMON 4 LN MSG:
OOS g h i j k l m n o p
FAIL g h i j k l m n o p
PEST g h i j k l m n o p EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL COMMON 4 LN MSG:
SYNC ofp ofp CRO ofp
TLI ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp
a b c d e f g h i j k l m n o p EOM
```

For DACS II Non-CEF frames, the next segment describes the CCN hardware:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL TOTAL TSIS tt oo ff pp 5 LN MSG:
11 ofp ofp 12 ofp ofp 13 ofp ofp 14 ofp ofp 15 ofp ofp 16 ofp ofp
21 ofp ofp 22 ofp ofp 23 ofp ofp 24 ofp ofp 25 ofp ofp 26 ofp ofp
31 ofp ofp 32 ofp ofp 33 ofp ofp 34 ofp ofp 35 ofp ofp 36 ofp ofp
41 ofp ofp 42 ofp ofp 43 ofp ofp 44 ofp ofp 45 ofp ofp 46 ofp ofp EOP
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL TOTAL TSIS tt oo ff pp 3 LN MSG:
51 ofp ofp 52 ofp ofp 53 ofp ofp 54 ofp ofp 55 ofp ofp 56 ofp ofp
61 ofp ofp 62 ofp ofp 63 ofp ofp 64 ofp ofp 65 ofp ofp 66 ofp ofp EOM
```

For DACS II CEF frames, the next segment describes the ECCN hardware:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL TOTAL ETSIS tt oo ff pp 5 LN MSG:
01 ofp ofp 02 ofp ofp 03 ofp ofp 04 ofp ofp
05 ofp ofp 06 ofp ofp 07 ofp ofp 08 ofp ofp
09 ofp ofp 10 ofp ofp 11 ofp ofp 12 ofp ofp
13 ofp ofp 14 ofp ofp 15 ofp ofp 16 ofp ofp EOM
```

The output then continues with segments about the common equipment in the units. One module will be generated per unit, in ascending order by number. The unit equipped for a given unit number determines the output segment printed.

The output segment for an FTU:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL FTU 3 LN MSG:
UNIT [q]q UC ofp FTMI ofp ofp ofp ofp [CCB ofp ofp]
FC ofp ofp ofp ofp ofp ofp ofp ofp EOM
```

The output segment for a DS3 Unit:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL DS3U 3 LN MSG:
UNIT [q]q UC ofp FLI ofp ofp FMT ofp ofp [CCB ofp ofp]
MXR ofp ofp ofp ofp ofp ofp ofp ofp MIU ofp ofp ofp ofp ofp ofp EOM
```

The output segment for a DSPU:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q UC aáa DSPI bbb [CCB rfr sss] EOM
```

Then, the output continues with information about individual NPCs. One output message will be printed for each FTM (Facility Terminating Module), each MXR (Multiplexer), or each unit in the case of a DSPU.

The output segment for a DS1 FTM:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL FTU NPCS uvmnp-uxkqr tt 5 LN MSG:
ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp 00S oo FAIL ff PEST pp
ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp
ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp
ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp EOM
```

The output segment for NPCs of a DS3U MXR:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL DS3U NPCS uvmnp-uxkqr tt 5 LN MSG:
ofp ofp ofp ofp ofp ofp ofp ofp 00S oo FAIL ff PEST pp
ofp ofp ofp ofp ofp ofp ofp ofp
ofp ofp ofp ofp ofp ofp ofp ofp
ofp ofp ofp ofp ofp ofp ofp ofp EOM
```

The output segment for NPCs of a DSPU:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL DSPU NPCS uvmnp-uxkqr 3 LN MSG:
zzzzz ofp ofp zzzzz ofp ofp zzzzz ofp ofp zzzzz ofp ofp
zzzzz ofp ofp zzzzz ofp ofp zzzzz ofp ofp zzzzz ofp ofp EOM
```

The output segment for an equipped FTM/MXR/DSPU with no NPC in FAIL, PEST and/or OOS state:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL {FTU|DS3U|DSPU} NPCS uvmnp-uxkqr tt 2 LN MSG:
00S 00 FAIL 00 PEST 00 EOM
```

If an FTM/MXR/DSPU is not equipped or if it is equipped but has no NPC equipped, then the message segment for that FTM will not appear.

The following segment is output to complete the message:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL COMPL
```

The response to UTL::QRY ALL UNIT starts with:

The output segment for an FTU (Facility Terminating Unit):

[O.53101]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL FTU UNIT [q]q 3 LN MSG:
UC ofp FTMI ofp ofp ofp ofp [CCB ofp ofp]
FC ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp EOM
```

This message will be followed by up to 4 of the following segments depending on the FTM equipage:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL FTU NPCS uvmnp-uxkqr tt 5 LN MSG:
ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp 00S oo FAIL ff PEST pp
ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp
ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp
ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp EOM
```

The output segment for a DS3U:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL DS3U UNIT [q]q 3 LN MSG:
UC ofp FLI ofp ofp FMT ofp ofp [CCB ofp ofp]
MXR ofp ofp ofp ofp ofp ofp ofp ofp MIU ofp ofp ofp ofp ofp ofp ofp EOM
```

This message is followed by up to 7 of the following segments depending on the MXR equipage:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q DS3U NPCS uvmnp-uxkqr tt 5 LN MSG:
ofp ofp ofp ofp ofp ofp ofp ofp 00S oo FAIL ff PEST pp
ofp ofp ofp ofp ofp ofp ofp
ofp ofp ofp ofp ofp ofp ofp
ofp ofp ofp ofp ofp ofp ofp EOM
```

The output segment format for a DSPU:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q UC aaa DSPI bbb [CCB rfr sss] EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q DSPU NPCS uvmnp-uxkqr tt 3 LN MSG:
uvmnp ofp ofp uvmnp ofp ofp uvmnp ofp ofp uvmnp ofp ofp
uvmnp ofp ofp uvmnp ofp ofp uvmnp ofp ofp uvmnp ofp ofp EOM
```

The output segment for an equipped FTM/MXR/DSPU with no NPC in FAIL, PEST and/or OOS state:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q {FTU|DS3U|DSPU} NPCS uvmnp-uxkqr
tt 2 LN MSG:
OOS 00 FAIL 00 PEST 00 EOM
```

If an FTM/MXR/DSPU is not equipped or if it is equipped but has no NPC equipped, then the message segment for that FTM will not appear.

The following segment is output to complete the message:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q COMPL
```

### **Denial Message**

---

[O.53101.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q COND cc DNY
```

### **Autonomous Message**

---

Not applicable.



## Explanation Of Parameters

To aid referencing the parameters listed for a given message the line containing the parameters is listed below just before the explanation of that particular set of parameters is given.

**ALL** - All

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

The UNIT option is specified to query that unit. The UNIT field will be null when the command is used for the entire frame. If the UNIT option is specified, only the information related to the equipment in that unit will be generated.

**OOS** - Out of service

**FAIL** - Fail

**PEST** - Pest

For the OOS, FAIL and PEST keywords, variables g through p each represent a frame entity. The values of these variables give the OOS, FAIL, or PEST status of the associated entity. Values are interpreted using the table below. The entity associated with a given variable is given following the explanation of PEST below.

| Value | <b>OOS</b>     | <b>FAIL</b>    | <b>PEST</b>    |
|-------|----------------|----------------|----------------|
| 1     | out-of-service | failed         | pested         |
| 0     | in service     | not failed     | unpested       |
| -     | not applicable | not applicable | not applicable |

As shown above, a hyphen "-" indicates the parameter is not applicable to the particular entity. For example, an unequipped circuit would display a "-" in the position of its OOS, FAIL and PEST indicators g through p.

The keyword PEST is used to indicate that error reporting is disabled. Out-of-service (OOS) entities and entities related to a side that is out of service are pested to prevent error messages from being reported to the main controller. Error reporting is undesirable if an entity is OOS since it would interrupt normal operations by repeatedly interrupting the microprocessor.

**OOS** g h i j k l m n o p (message line for reference)  
**FAIL** g h i j k l m n o p "  
**PEST** g h i j k l m n o p **EOM** "

The DACS II entities and their status fields are as follows:

**g** - Link 1  
**h** - Link 2  
**i** - Link 3  
**j** - Link 4  
**k** - Link 5  
**l** - Link 6  
**m** - XC0 (Cross-Connect 0)  
**n** - XC1 (Cross-Connect 1)  
**o** - CCNI 0 (Cross-Connect Network Interface 0) NonCEF  
**p** - CCNI 1 (Cross-Connect Network Interface 1) NonCEF  
**o** - CCI 0 (Clock and Control Interface 0) CEF  
**p** - CCI 1 (Clock and Control Interface 1) CEF

**SYNC ofp ofp CRO ofp** (message line for reference)

**SYNC** - Synchronizer

**ofp** - Side 0 sync status  
**ofp** - Side 1 sync status

**o, o** - OOS  
**f, f** - FAIL  
**p, p** - PEST

**CRO** - Clock reference oscillator

**ofp** - CRO status

**o** - OOS  
**f** - FAIL  
**p** - PEST

To aid in interpreting the variables associated with the timing link interface two lines from the message are printed below for reference. These lines have been marked with identifying information.

```
|<----- Side 0 ----->|<----- Side 1 ----->|

  TLI ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp
    a  b  c  d  e  f  g  h  i  j  k  l  m  n  o  p  EOM

TLI No.  1  1  2  2  3  3  4  4  1  1  2  2  3  3  4  4
SSP No.  0  1  0  1  0  1  0  1  0  1  0  1  0  1  0  1
```

**TLI** - Timing link interface

**ofp** - Side 0 TLI status

**o** - Out of service  
**f** - Fail  
**p** - Pest

**ofp** - Side 1 TLI status

**o** - Out of service  
**f** - Fail  
**p** - Pest

There are four TLIs in each synchronizer side and each TLI has two synchronizer synchronization ports (SSP) for a total of eight SSPs per side. Variables a through p represent these SSPs and are associated with each TLI as shown below. The values of a through p give the priority of each SSP as a synchronization source. Priorities range in value from 1 through 8 and are interpreted as shown below.

**1** - Highest priority  
**8** - Lowest priority

- a** - TLI 1 SSP 0 priority
- b** - TLI 1 SSP 1 priority
  
- c** - TLI 2 SSP 0 priority
- d** - TLI 2 SSP 1 priority
  
- e** - TLI 3 SSP 0 priority
- f** - TLI 4 SSP 1 priority
  
- g** - TLI 4 SSP 0 priority
- h** - TLI 4 SSP 1 priority
  
- i** - TLI 1 SSP 0 priority
- j** - TLI 1 SSP 1 priority
  
- k** - TLI 2 SSP 0 priority
- l** - TLI 2 SSP 1 priority
  
- m** - TLI 3 SSP 0 priority
- n** - TLI 3 SSP 1 priority
  
- o** - TLI 4 SSP 0 priority
- p** - TLI 4 SSP 1 priority

**UTL QRY ALL TOTAL TSIS tt oo ff pp** (message line for reference)

**UTL QRY ALL TOTAL ETSIS tt oo ff pp** (message line for reference)

**TOTAL** - Total

**TSIS** - Time slot interchangers NonCEF

**ET SIS** - Expanded time slot interchangers

- tt** - Total number of equipped TSIS or ETSIS
- oo** - Total number of equipped but out-of-service TSIS or ETSIS
- ff** - Total number of equipped but failed TSIS or ETSIS
- pp** - Total number of equipped but pested TSIS or ETSIS

The following lines are message lines for reference.

**UNIT [q]q UC ofp FTMI ofp ofp ofp ofp [CCB ofp ófp]**

FTM number                      1    2    3    4

**FC ofp ofp   ofp ofp   ofp ofp   ofp ofp EOM**

|          |   |   |   |   |   |   |   |   |
|----------|---|---|---|---|---|---|---|---|
| FTM No.  | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 |
| Side No. | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |

**UC**    - Unit controller

**FTMI** - Facility terminating module interface

**CCB**    - Cross-connect buffer   NonCEF

**FC**    - Format converter

**o, o**    - OOS

**f, f**    - FAIL

**p, p**    - PEST

The following line is a message line for reference.

**UNIT [q]q UC ofp FLI ofp ófp FMT ofp ófp [CCB ofp ófp]**

|              |  |   |   |   |   |
|--------------|--|---|---|---|---|
| FLI ID.      |  | S | P |   |   |
| FMT Side No. |  |   |   | 0 | 1 |

**FLI**    - Facility line interface

**FMT**    - Formatter

**ofp**    - Service (S) FLI

**ofp**    - Protection (P) FLI

**o, o**    - OOS

**f, f**    - FAIL

**p, p**    - PEST

The following line is a message line for reference.

|            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| <b>MXR</b> | <b>ofp</b> | <b>ofp</b> | <b>ofp</b> | <b>ofp</b> | <b>ofp</b> | <b>ofp</b> | <b>ofp</b> | <b>MIU</b> | <b>ofp</b> | <b>ofp</b> | <b>ofp</b> | <b>ofp</b> | <b>ofp</b> | <b>ofp</b> | <b>ofp</b> | <b>ofp</b> |
| No.        | P          | 1          | 2          | 3          | 4          | 5          | 6          |            | P          | 1          | 2          | 3          | 4          | 5          | 6          |            |

**MIU** - Multiplexer interface unit

**MXR** - Multiplexer

The MXRs and MIUs are identified below the reference message line. P stands for Protection.

**FTU** - Facility terminating unit

**[s]aaa** - The 3- or 4-digit nonhierarchical NPC number

**[t]bbb** - The 3- or 4-digit nonhierarchical NPC number

**DS3U** - Digital signal 3 unit

**DSPU** - Digital signal processing unit

**UC aáa DSPI bbb [CCB rfr sss]** (message line for reference)

**DSPI** - Digital signal processing interface

**a, b, r, s**  
- OOS

**a, b, r, s**  
- FAIL

**a, b, r, s**  
- PEST

**[a]aaa** - The first 3- or 4-digit nonhierarchical NPC number of an FTM or MXR

**[b]bbb** - The last 3- or 4-digit nonhierarchical NPC number of an FTM or MXR

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

| Unit<br>1  | Unit<br>2  | Unit<br>3  | Unit<br>4  | Unit<br>5  | Unit<br>6  |
|------------|------------|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| <b>001</b> | <b>161</b> | <b>321</b> | <b>481</b> | <b>641</b> | <b>801</b> |
| <b>021</b> | <b>181</b> | <b>341</b> | <b>501</b> | <b>661</b> | <b>821</b> |
| <b>041</b> | <b>201</b> | <b>361</b> | <b>521</b> | <b>681</b> | <b>841</b> |
| <b>061</b> | <b>221</b> | <b>381</b> | <b>541</b> | <b>701</b> | <b>861</b> |
| <b>081</b> | <b>241</b> | <b>401</b> | <b>561</b> | <b>721</b> | <b>881</b> |
| <b>101</b> | <b>261</b> | <b>421</b> | <b>581</b> | <b>741</b> | <b>901</b> |
| <b>121</b> | <b>281</b> | <b>441</b> | <b>601</b> | <b>761</b> | <b>921</b> |
| <b>141</b> | <b>301</b> | <b>461</b> | <b>621</b> | <b>781</b> | <b>941</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

| Unit<br>1   | Unit<br>2   | Unit<br>3   | Unit<br>4   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0001</b> | <b>0161</b> | <b>0321</b> | <b>0481</b> |
| <b>0021</b> | <b>0181</b> | <b>0341</b> | <b>0501</b> |
| <b>0041</b> | <b>0201</b> | <b>0361</b> | <b>0521</b> |
| <b>0061</b> | <b>0221</b> | <b>0381</b> | <b>0541</b> |
| <b>0081</b> | <b>0241</b> | <b>0401</b> | <b>0561</b> |
| <b>0101</b> | <b>0261</b> | <b>0421</b> | <b>0581</b> |
| <b>0121</b> | <b>0281</b> | <b>0441</b> | <b>0601</b> |
| <b>0141</b> | <b>0301</b> | <b>0461</b> | <b>0621</b> |
| Unit<br>5   | Unit<br>6   | Unit<br>7   | Unit<br>8   |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0641</b> | <b>0801</b> | <b>0961</b> | <b>1121</b> |
| <b>0661</b> | <b>0821</b> | <b>0981</b> | <b>1141</b> |
| <b>0681</b> | <b>0841</b> | <b>1001</b> | <b>1161</b> |
| <b>0701</b> | <b>0861</b> | <b>1021</b> | <b>1181</b> |
| <b>0721</b> | <b>0881</b> | <b>1041</b> | <b>1201</b> |
| <b>0741</b> | <b>0901</b> | <b>1061</b> | <b>1221</b> |
| <b>0761</b> | <b>0921</b> | <b>1081</b> | <b>1241</b> |
| <b>0781</b> | <b>0941</b> | <b>1101</b> | <b>1261</b> |



| Unit<br>9   | Unit<br>10  | Unit<br>11  | Unit<br>12  |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1281</b> | <b>1441</b> | <b>1601</b> | <b>1761</b> |
| <b>1301</b> | <b>1461</b> | <b>1621</b> | <b>1781</b> |
| <b>1321</b> | <b>1481</b> | <b>1641</b> | <b>1801</b> |
| <b>1341</b> | <b>1501</b> | <b>1661</b> | <b>1821</b> |
| <b>1361</b> | <b>1521</b> | <b>1681</b> | <b>1841</b> |
| <b>1381</b> | <b>1541</b> | <b>1701</b> | <b>1861</b> |
| <b>1401</b> | <b>1561</b> | <b>1721</b> | <b>1881</b> |
| <b>1421</b> | <b>1581</b> | <b>1741</b> | <b>1901</b> |
| <br>        |             |             |             |
| Unit<br>13  | Unit<br>14  | Unit<br>15  | Unit<br>16  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1921</b> | <b>2081</b> | <b>2241</b> | <b>2401</b> |
| <b>1941</b> | <b>2101</b> | <b>2261</b> | <b>2421</b> |
| <b>1961</b> | <b>2121</b> | <b>2281</b> | <b>2441</b> |
| <b>1981</b> | <b>2141</b> | <b>2301</b> | <b>2461</b> |
| <b>2001</b> | <b>2161</b> | <b>2321</b> | <b>2481</b> |
| <b>2021</b> | <b>2181</b> | <b>2341</b> | <b>2501</b> |
| <b>2041</b> | <b>2201</b> | <b>2361</b> | <b>2521</b> |
| <b>2061</b> | <b>2221</b> | <b>2381</b> | <b>2541</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

The following lines are message lines for reference.

[z]zzz ofp ófp [z]zzz ofp ófp [z]zzz ofp ófp [z]zzz ofp ófp EOM

zzzzz ofp ófp zzzzz ofp ófp zzzzz ofp ófp zzzzz ofp ófp EOM

uvmnp ofp ófp uvmnp ofp ófp uvmnp ofp ófp uvmnp ofp ófp EOM

**zzzzz** - Hierarchical DSPU NPC number

**[z]zzz** - The 3- or 4-digit nonhierarchical DSPU NPC number

The span refers to the odd DSPU circuit pack NPCs, and the total is the number of NPC pairs equipped.

**uvmnp** - The first hierarchical NPC number of an FTM, MXR, or DSPU

**uxkqr** - The last hierarchical NPC number of an FTM, MXR, or DSPU

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

MB, SR, and MJ type numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

| Unit         | Module     | NPC       |
|--------------|------------|-----------|
| <b>01-16</b> | <b>1-8</b> | <b>01</b> |

- tt** - Total number of equipped NPCs
- oo** - Total number of equipped but out-of-service NPCs
- ff** - Total number of equipped but failed NPCs
- pp** - Total number of equipped but pested NPCs
- cc** - Hexadecimal condition code

**cc**    *Explanation*

- 02**    Subject entity is not equipped
- 10**    Unit is not equipped

---

## UTL, QRY, ALM, DS3

---

### QUERY DS3 ALARMS

#### Explanation Of Command

---

This message queries the state of the facility alarm on all DS3 facilities and appends the results to the midnight output message provided the respective bit has been enabled in Message 51011.

#### Command

---

[I.56331]

UTL:FRM xy,SEQ ww:QRY,ALM,DS3!

#### Completion Message

---

[O.56331]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALM DS3 TOT ppp e LN MSG:
[UNIT [q]q xxlobai xxlobai xxlobai xxlobai xxlobai xxlobai]
[UNIT [q]q xxlobai xxlobai xxlobai xxlobai xxlobai xxlobai]
[UNIT [q]q xxlobai xxlobai xxlobai xxlobai xxlobai xxlobai]
UNIT [q]q xxlobai xxlobai xxlobai xxlobai xxlobai xxlobai {EOM|COMPL}
```

```
.....
.....
```

```
[M hh:mm:ss xy,ww n[vv] UTL QRY ALM DS3 TOT ppp e LN MSG:]
[UNIT [q]q xxlobai xxlobai xxlobai xxlobai xxlobai xxlobai]
[UNIT [q]q xxlobai xxlobai xxlobai xxlobai xxlobai xxlobai]
[UNIT [q]q xxlobai xxlobai xxlobai xxlobai xxlobai xxlobai]
[UNIT [q]q xxlobai xxlobai xxlobai xxlobai xxlobai xxlobai COMPL]
```

[O.56332]

M hh:mm:ss xy,ww n[vv] UTL QRY ALM DS3 TOT 000 COMPL

### Denial Message

---

Not applicable.

### Autonomous Message

---

[O.56331]

I hh:mm:ss xy,ww n[vv] UTL QRY ALM DS3 TOT ppp e LN MSG:  
[UNIT [q]q xxlobai xxlobai xxlobai xxlobai xxlobai xxlobai]  
[UNIT [q]q xxlobai xxlobai xxlobai xxlobai xxlobai xxlobai]  
[UNIT [q]q xxlobai xxlobai xxlobai xxlobai xxlobai xxlobai]  
UNIT [q]q xxlobai xxlobai xxlobai xxlobai xxlobai xxlobai {EOM|COMPL}

.....  
.....

[I hh:mm:ss xy,ww n[vv] UTL QRY ALM DS3 TOT ppp e LN MSG:]  
[UNIT [q]q xxlobai xxlobai xxlobai xxlobai xxlobai xxlobai]  
[UNIT [q]q xxlobai xxlobai xxlobai xxlobai xxlobai xxlobai]  
[UNIT [q]q xxlobai xxlobai xxlobai xxlobai xxlobai xxlobai]  
[UNIT [q]q xxlobai xxlobai xxlobai xxlobai xxlobai xxlobai COMPL]

[O.56332]

I hh:mm:ss xy,ww n[vv] UTL QRY ALM DS3 TOT 000 COMPL

### Explanation Of Parameters

---

**ALM** - Alarm

**TOT** - Total number of facilities reporting alarms

**ppp** - The total number of DS3 facilities in the output segment that are reporting critical facility alarms

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

- LOS** - Loss of signal
- OOF** - Out of frame
- BER** - Bit error rate
- AIS** - Alarm indication signal
- IDLE** - Idle signal
  
- xx** - The facility alarm status of the DS3:
  - CR** - Critical alarm
  - - The DS3 is unequipped
  - ER** - Error (either the MMFG selected to serve the facility is Out of Service or In Service\_Pested, or the FLI selected to serve the facility is In Service\_Pested)
  - CL** - Clear (no alarm, no AIS or IDLE condition)
  - UX** - The unit is out of service, data unavailable
  
- l** - The loss of signal alarm status for a DS3 facility:
  - 0** - The loss of signal alarm is clear
  - 1** - The loss of signal alarm is active
  - - The xx field is either UX, ER or --
  
- o** - The out of frame alarm status for a DS3 facility:
  - 0** - The out of frame alarm is clear
  - 1** - The out of frame alarm is active
  - - The xx field is either UX, ER or --
  
- b** - The high bit error rate alarm status for a DS3 facility:
  - 0** - The high BER alarm is clear
  - 1** - The high BER alarm is active
  - - The xx field is either UX, ER or --
  
- a** - The alarm indication signal (AIS) alarm status for a DS3 facility:
  - 0** - The AIS alarm is clear
  - 1** - The AIS alarm is active
  - - The xx field is either UX, ER or --
  
- i** - The idle signal alarm status for a DS3 facility:
  - 0** - The idle signal alarm is clear
  - 1** - The idle signal alarm is active
  - - The xx field is either UX, ER or --
  
- e** - Number of lines in each segment (2 to 5)

## **UTL, QRY, ALMOPT, NPC, AIS**

### **UTILITY QUERY, ALARM OPTION, AIS**

#### **Explanation Of Command**

This message requests alarm indication signal (AIS) information for one or more facility terminating unit (FTU) or DS3 unit (DS3U) network processing circuits. The range can cross the unit boundary, and the two NPCs entered can be from different types of units. This message is not applicable to digital signal processing unit (DSPU) NPCs. DSPU NPCs will be skipped in the output message if they are within the range.

#### **Command**

#### **Nonhierarchical**

[I.56021]

UTL:FRM xy,SEQ ww:QRY,ALMOPT,NPC [s]abc[-[v]ghi],AIS!

#### **Hierarchical**

[I.56021]

UTL:FRM xy,SEQ ww:QRY,ALMOPT,NPC uvmnp[-wxkqr],AIS!

## Completion Message

### Nonhierarchical

[O.56021]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPCS [s]abc-[t]def AIS \
TOT nnn e LN MSG:
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt EOM
```

.  
.  
.

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPCS [u]jkl-[v]ghi AIS \
TOT nnn e LN MSG:
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt EOM
```

M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPCS [s]abc-[v]ghi AIS COMPL

**Note:** The above message applies to FT units.

[O.56022]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPCS [s]abc-[t]def AIS \
TOT nnn e LN MSG:
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt EOM
```

.  
.  
.

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPCS [u]jkl-[v]ghi AIS \
TOT nnn e LN MSG:
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt EOM
```

M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPCS [s]abc-[v]ghi AIS COMPL

**Note:** The above message applies to DS3 units.



## Hierarchical

[O.56021]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPCS uvmnp-defgh AIS \
TOT nnn e LN MSG:
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt EOM
```

.  
.  
.

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPCS ijklm-wxkqr AIS \
TOT nnn e LN MSG:
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt tttt tttt EOM
```

M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPCS uvmnp-wxkqr AIS COMPL

**Note:** The above message applies to FT units.

[O.56022]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPCS uvmnp-defgh AIS \
TOT nnn e LN MSG:
tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt EOM
```

.  
.  
.

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPCS ijklm-wxkqr AIS \
TOT nnn e LN MSG:
tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt EOM
```

M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPCS uvmnp-wxkqr AIS COMPL

**Note:** The above message applies to DS3 units.

## Denial Message

---

### Nonhierarchical

---

[O.56021.01]

M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPC [t]def[-[u]jkl] AIS \  
UEQD DNY

[O.56021.02]

M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPC [t]def[-[u]jkl] AIS \  
COND cc DNY

### Hierarchical

---

[O.56021.01]

M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPC defgh[-ijklm] AIS UEQD DNY

[O.56021.02]

M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPC defgh[-ijklm] AIS \  
COND cc DNY

## Autonomous Message

---

Not applicable.

## Explanation Of Parameters

---

**ALMOPT** - Alarm option

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit starting nonhierarchical NPC number

**[v]ghi** - The 3- or 4-digit ending nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |
| <b>16A-16H</b>               | <b>32A-32H</b>               | <b>48A-48H</b>               | <b>64A-64H</b>               | <b>80A-80H</b>               | <b>96A-96H</b>               |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmp** - Starting hierarchical NPC number

**wxkqr** - Ending hierarchical NPC number

**uv, wx** - Unit number

**m, k** - Module number

**np, qr** - NPC number within the module

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**[t]def** - The 3- or 4-digit nonhierarchical NPC number ([s]abc through [u]jkl)

**[u]jkl** - The 3- or 4-digit nonhierarchical NPC number ([t]def through [v]ghi)

**edfgh** - Hierarchical NPC number (uvmnp through ijklm)

**ijklm** - Hierarchical NPC number (edfgh through wxkqr)

**ed** - Unit number (uv through wx)

**f** - Module number

**gh** - NPC number

**e** - Number of lines in message

The number of lines in the message depends on the number of equipped NPCs to be reported.

**nnn** - Total number of alarms

**TOT** - Total

**tttt** - AIS Alarm option programmed for the NPC

*tttt Explanation*

INFO Information message (for all domestic NPCs)

MJ Major alarm (for all domestic NPCs)

MN Minor alarm (for domestic non-SLC type NPCs)

-- Unequipped

**UEQD** - Unequipped

**cc** - Hexadecimal condition code

*cc Explanation*

**0B** Invalid CEPT NPC

**60** Selectable AIS not valid for specified NPC(s) type

**61** All NPC(s) are either not valid or not grown

## **UTL,QRY,ALMS**

### **UTILITY QUERY ALARMS**

#### **Explanation Of Command**

This message reports the source of all alarms currently on the DACS II frame. For each entity that has been autonomously removed the resulting alarm state is given.

If there are no alarms to report, a single line message is output indicating that the total number of alarms is **000**.

#### **Command**

[I.53111]

**UTL:FRM xy,SEQ ww:QRY,ALMS!**

#### **Completion Message**

#### **Nonhierarchical**

When there are no alarms active on the frame, the following output appears:

[O.53112]

**M hh:mm:ss xy,ww n[vv] UTL QRY ALMS TOTAL 000 COMPL**

When there are alarms active on the frame, the following output appears:

[O.53111]

For NonCEF:

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS SUMMARY CR t MJ u MN v \  
MC w PWR z EOM

M hh:mm:ss xy,ww n[vv] UTL QRY PWR w w w w w w w w w w EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS a b c d e f g h i j k l m \  
n o p q r s EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS 3 LN MSG:  
SYNC x y CRO x  
TLI a b c d e f g h a b c d e f g h EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS TOTAL TSIS tt nn 5 LN MSG:  
ft x y ft x y ft x y ft x y ft x y ft x y  
ft x y ft x y ft x y ft x y ft x y ft x y  
ft x y ft x y ft x y ft x y ft x y ft x y  
ft x y ft x y ft x y ft x y ft x y ft x y EOP

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS TOTAL TSIS tt nn 3 LN MSG:  
ft x y ft x y ft x y ft x y ft x y ft x y  
ft x y ft x y ft x y ft x y ft x y ft x y EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS e LN MSG:  
<data line for first equipped unit>  
<data line for second equipped unit>  
<data line for third equipped unit>  
<data line for fourth equipped unit> EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS e LN MSG:  
<data line for fifth equipped unit>  
<data line for sixth equipped unit> EOM

[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3 rr e LN MSG:]  
[UNIT q y y y y y y ALMS gg]  
[UNIT q y y y y y y]  
[UNIT q y y y y y y]  
[UNIT q y y y y y y EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3 rr e LN MSG:]  
[UNIT q y y y y y y ALMS gg]  
[UNIT q y y y y y y EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS {RT|DL} ffff x EOM]

<NPC alarm information per unit type--see description below>

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS COMPL



For CEF frames:

[0.53111]

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS SUMMARY CR t MJ u MN v \  
MC w PWR z EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS PWR 2 LN MSG:  
w w w w w w w w w w w w w w w w w w w w EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS a b c d e f g h i j k l m \  
n o p q r s EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS 3 LN MSG:  
SYNC x y CRO x  
TLI a b c d e f g h a b c d e f g h EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS TOTAL ETSIS tt nn 3 LN MSG:  
01 x y 02 x y 03 x y 04 x y 05 x y 06 x y 07 x y 08 x y  
09 x y 10 x y 11 x y 12 x y 13 x y 14 x y 15 x y 16 x y EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS e LN MSG:  
<data line for first equipped unit>  
<data line for second equipped unit>  
<data line for third equipped unit>  
<data line for fourth equipped unit> EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS e LN MSG:  
<data line for fifth equipped unit>  
<data line for sixth equipped unit>  
<data line for seventh equipped unit>  
<data line for eighth equipped unit> EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS e LN MSG:  
<data line for ninth equipped unit>  
<data line for tenth equipped unit>  
<data line for eleventh equipped unit>  
<data line for twelfth equipped unit> EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS e LN MSG:  
<data line for thirteenth equipped unit>  
<data line for fourteenth equipped unit>  
<data line for fifteenth equipped unit>  
<data line for sixteenth equipped unit> EOM

```
[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3 rr e LN MSG:]
[UNIT q y y y y y y ALMS gg]
[UNIT q y y y y y y]
[UNIT q y y y y y y]
[UNIT q y y y y y y EOM]
```

```
[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS {RT|DL} ffff x EOM]
```

<NPC alarm information per unit type--see description below>

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS COMPL
```

The following is a detailed description of the output lines shown above.

1) Summary line showing status of CR, MJ, MN, MC, and PWR alarms.

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS SUMMARY CR t MJ u MN v \
MC w PWR z EOM
```

2) Summary line showing alarm status of the various power units within each FTU/IFTU/DSPU/DS3U, the Synchronizer, the Main Controller, and CCN/ECCN.

For DACS II NonCEF frames (CCN),

```
M hh:mm:ss xy,ww n[vv] UTL QRY PWR w w w w w w w w w w EOM
```

For DACS II CEF frames (ECCN),

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS PWR 2 LN MSG:
w w w w w w w w w w w w w w w w w w w w EOM
```

3) Summary line showing status of alarms on the main controller and switch complex (CCN/ECCN).

For DACS II NonCEF frames (CCN),

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS a b c d e f g h i j k l m \
n o p q r s EOM
```

For DACS II CEF frames (ECCN),

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS a b c d e f g h i j k l m \
n o p q r s EOM
```

4) Summary line showing synchronizer entities alarm status.

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS 3 LN MSG:
SYNC x y CRO x
TLI a b c d e f g h a b c d e f g h EOM
```

5) Summary line showing cross-connect (CCN/ECCN) entity alarm status.

For DACS II NonCEF frames (CCN),

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS TOTAL TSIS tt nn  5 LN MSG:
ft x y ft x y ft x y ft x y ft x y ft x y ft x y
ft x y ft x y ft x y ft x y ft x y ft x y ft x y
ft x y ft x y ft x y ft x y ft x y ft x y ft x y
ft x y ft x y ft x y ft x y ft x y ft x y ft x y EOP
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS TOTAL TSIS tt nn  3 LN MSG:
ft x y ft x y ft x y ft x y ft x y ft x y ft x y
ft x y ft x y ft x y ft x y ft x y ft x y ft x y EOM
```

For DACS II CEF frames (ECCN),

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS TOTAL ETSIS tt nn  3 LN MSG:
01 x y 02 x y 03 x y 04 x y 05 x y 06 x y 07 x y 08 x y
09 x y 10 x y 11 x y 12 x y 13 x y 14 x y 15 x y 16 x y EOM
```

6) Alarm status of the common equipment within each unit, in unit number order  
(Only those units which are equipped will be shown in the output; for example,  
if only two units are equipped, only two data lines will appear).

For NonCEF frames:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS  e LN MSG:
<data line for first  equipped unit>
<data line for second equipped unit>
<data line for third  equipped unit>
<data line for fourth equipped unit> EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS  e LN MSG:
<data line for fifth equipped unit>
<data line for sixth equipped unit> EOM
```

For CEF frames:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS  e LN MSG:
<data line for first  equipped unit>
<data line for second equipped unit>
<data line for third  equipped unit>
<data line for fourth equipped unit> EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS  e LN MSG:
<data line for fifth  equipped unit>
<data line for sixth  equipped unit>
<data line for seventh equipped unit>
<data line for eighth equipped unit> EOM
```

**M hh:mm:ss xy,ww n[vv] UTL QRY ALMS e LN MSG:**

<data line for ninth equipped unit>  
<data line for tenth equipped unit>  
<data line for eleventh equipped unit>  
<data line for twelfth equipped unit> EOM

**M hh:mm:ss xy,ww n[vv] UTL QRY ALMS e LN MSG:**

<data line for thirteenth equipped unit>  
<data line for fourteenth equipped unit>  
<data line for fifteenth equipped unit>  
<data line for sixteenth equipped unit> EOM

*Data Lines For Summary Alarm Information On A Unit (FTU/IFTU, DSPU, DS3U)*

Data line for a unit equipped as an FTU/IFTU:

**UNIT [q]q UC a FTMI b c d e FC f g h i j k l m[ CCB r s][ 00S]**

Data line for a unit equipped as a DS3U:

**UNIT [q]q UC a FLI b c FMT l m MXR d e f g h i j MIU n o p q u v w  
\\ DU <aa> [CCB r s][ 00S]**

Data line for a unit equipped as a DSPU:

**UNIT [q]q UC a DSPI b [CCB r s][ 00S]**

7) DS3 facility alarm segment (only shown if DS3 units are equipped and in alarm)

For NonCEF frames:

**[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3 rr e LN MSG:]  
[UNIT q y y y y y y ALMS gg]  
[UNIT q y y y y y y]  
[UNIT q y y y y y y]  
[UNIT q y y y y y y EOM]**

**[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3 rr e LN MSG:]  
[UNIT q y y y y y y ALMS gg]  
[UNIT q y y y y y y EOM]**

For CEF frames:

Up to 4 five-line output segments can be printed, depending  
on the number of DS3 Units equipped (1-16).

8) RT alarm segment (only shown if RT is provisioned and in alarm)

**[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS {RT|DL} ffff x EOM]**

9) NPC alarm data per unit (FTU/IFTU, DS3U, DSPU), shown in unit order (1,2,...). If a unit or module is unequipped or there are no NPC alarms, the corresponding message segment is skipped. The three possibilities are:

For a DS1 Facility Terminating Module (FTM):

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS FTU NPCS [s]aaa-[t]bbb \
tt[ 00S] 5 LN MSG:
x x x x x      x x x x x ALMS nn
x x x x x      x x x x x
x x x x x      x x x x x
x x x x x      x x x x x EOM
```

For a DS3 module:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3U NPCS [s]aaa-[t]bbb tt\
[ 00S] 5 LN MSG:
x x x x x x x ALMS nn
x x x x x x x
x x x x x x x
x x x x x x x EOM
```

For a DSPU:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS UNIT [q]q DSPU NPCS\
[ 00S] 3 LN MSG:
[s]zzz x y [s]zzz x y [s]zzz x y [s]zzz x y ALMS nn
[s]zzz x y [s]zzz x y [s]zzz x y [s]zzz x y EOM
```

10) Completion line

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS COMPL
```

## **Hierarchical**

---

When there are no alarms active on the frame, the following output appears:

[O.53112]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS TOTAL 000 COMPL
```

When there are alarms active on the frame, the following output appears:

[O.53111]

For NonCEF frames:

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS SUMMARY CR t MJ u MN v \  
MC w PWR z EOM

M hh:mm:ss xy,ww n[vv] UTL QRY PWR w w w w w w w w w w EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS a b c d e f g h i j k l m \  
n o p q r s EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS 3 LN MSG:  
SYNC x y CRO x  
TLI a b c d e f g h a b c d e f g h EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS TOTAL TSIS tt nn 5 LN MSG:  
ft x y ft x y ft x y ft x y ft x y ft x y  
ft x y ft x y ft x y ft x y ft x y ft x y  
ft x y ft x y ft x y ft x y ft x y ft x y  
ft x y ft x y ft x y ft x y ft x y ft x y EOP

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS TOTAL TSIS tt nn 3 LN MSG:  
ft x y ft x y ft x y ft x y ft x y ft x y  
ft x y ft x y ft x y ft x y ft x y ft x y EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS e LN MSG:  
<data line for first equipped unit>  
<data line for second equipped unit>  
<data line for third equipped unit>  
<data line for fourth equipped unit> EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS e LN MSG:  
<data line for fifth equipped unit>  
<data line for sixth equipped unit> EOM

[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3 rr e LN MSG:]  
[UNIT q y y y y y y ALMS gg]  
[UNIT q y y y y y y]  
[UNIT q y y y y y y]  
[UNIT q y y y y y y EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3 rr e LN MSG:]  
[UNIT q y y y y y y ALMS gg]  
[UNIT q y y y y y y EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS {RT|DL} ffff x EOM]

<NPC alarm information per unit type--see description below>

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS COMPL

For CEF frames:

[0.53111]

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS SUMMARY CR t MJ u MN v \  
MC w PWR z EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS PWR 2 LN MSG:  
W W W W W W W W W W W W W W W W W W W W EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS a b c d e f g h i j k l m \  
n o p q r s EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS 3 LN MSG:  
SYNC x y CRO x  
TLI a b c d e f g h a b c d e f g h EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS TOTAL ETSIS tt nn 3 LN MSG:  
01 x y 02 x y 03 x y 04 x y 05 x y 06 x y 07 x y 08 x y  
09 x y 10 x y 11 x y 12 x y 13 x y 14 x y 15 x y 16 x y EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS e LN MSG:  
<data line for first equipped unit>  
<data line for second equipped unit>  
<data line for third equipped unit>  
<data line for fourth equipped unit> EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS e LN MSG:  
<data line for fifth equipped unit>  
<data line for sixth equipped unit>  
<data line for seventh equipped unit>  
<data line for eighth equipped unit> EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS e LN MSG:  
<data line for ninth equipped unit>  
<data line for tenth equipped unit>  
<data line for eleventh equipped unit>  
<data line for twelfth equipped unit> EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS e LN MSG:  
<data line for thirteenth equipped unit>  
<data line for fourteenth equipped unit>  
<data line for fifteenth equipped unit>  
<data line for sixteenth equipped unit> EOM



```
[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3 rr e LN MSG:]  
[UNIT q y y y y y y ALMS gg]  
[UNIT q y y y y y y]  
[UNIT q y y y y y y]  
[UNIT q y y y y y y EOM]
```

```
[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS {RT|DL} ffff x EOM]
```

<NPC alarm information per unit type--see description below>

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS COMPL
```

The following is a detailed description of the output lines shown above.

1) Summary line showing status of CR, MJ, MN, MC, and PWR alarms.

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS SUMMARY CR t MJ u MN v \  
MC w PWR z EOM
```

2) Summary line showing alarm status of the various power units within each FTU/IFTU/DSPU/DS3U, the Synchronizer, the Main Controller, and CCN/ECCN.

For DACS II NonCEF frames (CCN),

```
M hh:mm:ss xy,ww n[vv] UTL QRY PWR w w w w w w w w w w EOM
```

For DACS II CEF frames (ECCN),

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS PWR 2 LN MSG:  
w w w w w w w w w w w w w w w w w w w w EOM
```

3) Summary line showing status of alarms on the main controller and switch complex (CCN/ECCN).

For DACS II NonCEF frames (CCN),

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS a b c d e f g h i j k l m \  
n o p q r s EOM
```

For DACS II CEF frames (ECCN),

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS a b c d e f g h i j k l m \  
n o p q r s EOM
```

4) Summary line showing synchronizer entities alarm status.

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS 3 LN MSG:  
SYNC x y CRO x  
TLI a b c d e f g h a b c d e f g h EOM
```

5) Summary line showing cross-connect (CCN/ECCN) entity alarm status.

For DACS II NonCEF frames (CCN),

**M hh:mm:ss xy,ww n[vv] UTL QRY ALMS TOTAL TSIS tt nn 5 LN MSG:**  
**ft x y ft x y ft x y ft x y ft x y ft x y**  
**ft x y ft x y ft x y ft x y ft x y ft x y**  
**ft x y ft x y ft x y ft x y ft x y ft x y**  
**ft x y ft x y ft x y ft x y ft x y ft x y EOP**

**M hh:mm:ss xy,ww n[vv] UTL QRY ALMS TOTAL TSIS tt nn 3 LN MSG:**  
**ft x y ft x y ft x y ft x y ft x y ft x y**  
**ft x y ft x y ft x y ft x y ft x y ft x y EOM**

For DACS II CEF frames (ECCN),

**M hh:mm:ss xy,ww n[vv] UTL QRY ALMS TOTAL ETSIS tt nn 3 LN MSG:**  
**01 x y 02 x y 03 x y 04 x y 05 x y 06 x y 07 x y 08 x y**  
**09 x y 10 x y 11 x y 12 x y 13 x y 14 x y 15 x y 16 x y EOM**

6) Alarm status of the common equipment within each unit, in unit number order  
 (Only those units which are equipped will show in the output; for example,  
 if only two units are equipped, only two data lines will appear).

For NonCEF frames:

**M hh:mm:ss xy,ww n[vv] UTL QRY ALMS e LN MSG:**  
 <data line for first equipped unit>  
 <data line for second equipped unit>  
 <data line for third equipped unit>  
 <data line for fourth equipped unit> EOM

**M hh:mm:ss xy,ww n[vv] UTL QRY ALMS e LN MSG:**  
 <data line for fifth equipped unit>  
 <data line for sixth equipped unit> EOM

For CEF frames:

**M hh:mm:ss xy,ww n[vv] UTL QRY ALMS e LN MSG:**  
 <data line for first equipped unit>  
 <data line for second equipped unit>  
 <data line for third equipped unit>  
 <data line for fourth equipped unit> EOM

**M hh:mm:ss xy,ww n[vv] UTL QRY ALMS e LN MSG:**

<data line for fifth equipped unit>  
<data line for sixth equipped unit>  
<data line for seventh equipped unit>  
<data line for eighth equipped unit> EOM

**M hh:mm:ss xy,ww n[vv] UTL QRY ALMS e LN MSG:**

<data line for ninth equipped unit>  
<data line for tenth equipped unit>  
<data line for eleventh equipped unit>  
<data line for twelfth equipped unit> EOM

**M hh:mm:ss xy,ww n[vv] UTL QRY ALMS e LN MSG:**

<data line for thirteenth equipped unit>  
<data line for fourteenth equipped unit>  
<data line for fifteenth equipped unit>  
<data line for sixteenth equipped unit> EOM

*Data Lines For Summary Alarm Information On A Unit (FTU/IFTU, DSPU, DS3U)*

Data line for a unit equipped as an FTU/IFTU:

**UNIT [q]q UC a FTMI b c d e FC f g h i j k l m[ CCB r s][ 00S]**

Data line for a unit equipped as a DS3U:

**UNIT [q]q UC a FLI b c FMT l m MXR d e f g h i j MIU n o p q u v w  
\\ DU <aa> [CCB r s][ 00S]**

Data line for a unit equipped as a DSPU:

**UNIT [q]q UC a DSPI b [CCB r s][ 00S]**

7) DS3 facility alarm segment (only shown if DS3 units are equipped and in alarm)

For NonCEF frames:

**[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3 rr e LN MSG:]**

**[UNIT q y y y y y y ALMS gg]**

**[UNIT q y y y y y y]**

**[UNIT q y y y y y y]**

**[UNIT q y y y y y y EOM]**

**[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3 rr e LN MSG:]**

**[UNIT q y y y y y y ALMS gg]**

**[UNIT q y y y y y y EOM]**

For CEF frames:

Up to 4 five-line output segments can be printed, depending on the number of DS3 Units equipped (1-16).

8) RT alarm segment (only shown if RT is provisioned and in alarm)

**[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS {RT|DL} ffff x EOM]**

9) NPC alarm data per unit (FTU/IFTU, DS3U, DSPU), shown in unit order (1,2,...). If a unit or module is unequipped or there are no NPC alarms, the corresponding message segment is skipped. The three possibilities are:

For a DS1 Facility Terminating Module (FTM):

**M hh:mm:ss xy,ww n[vv] UTL QRY ALMS FTU NPCS uvmnp-wxkqr tt\  
[ 00S] 5 LN MSG:  
x x x x x x x x x x x ALMS nn  
x x x x x x x x x x x  
x x x x x x x x x x x  
x x x x x x x x x x x EOM**

For a DS3 module:

**M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3U NPCS uvmnp-wxkqr tt\  
[ 00S] 5 LN MSG:  
x x x x x x x x ALMS nn  
x x x x x x x  
x x x x x x x  
x x x x x x x EOM**

For a digital signal processor unit (DSPU):

**M hh:mm:ss xy,ww n[vv] UTL QRY ALMS UNIT [q]q DSPU NPCS\  
[ 00S] 3 LN MSG:  
uvmnp x y uvmnp x y uvmnp x y uvmnp x y ALMS nn  
uvmnp x y uvmnp x y uvmnp x y uvmnp x y EOM**

10) Completion line

**M hh:mm:ss xy,ww n[vv] UTL QRY ALMS COMPL**

### **Denial Message**

Not applicable.

---

### **Autonomous Message**

Not applicable.

---

### **Explanation Of Parameters**

To aid referencing the parameters listed for a given message the line containing the parameters is listed below just before the explanation of that particular set of parameters is given.

The DACS II frame alarm state summary is given by the first line of the alarm report for these variables:

CR t MJ u MN v MC w PWR z

**CR** - Critical

**t** - Critical alarm status

**MJ** - Major

**u** - Major alarm status

**MN** - Minor

**v** - Minor alarm status

**MC** - Main controller

**w** - Main controller alarm status

**PWR** - Power

**z** - Power alarm status

The value of variables t, u, v, w, and z determines the alarm status.  
These values and their meaning are given below for t through z.

*t-z      Status*

1      Active

0      Not Active

**w** - Power failure indicator

Each w in the output message corresponds to a particular power unit in the frame. The w's are numbered from left to right beginning with 1. If the frame is a non-CEF frame, the w's will end with 10. If the frame is a CEF, the w's will end with 20.

Determine the number associated with the w of interest  
then use the table below to determine the affected power unit.

The value of w determines the status of the power unit

| <i>w</i> | <i>Power unit status</i>              |
|----------|---------------------------------------|
| M        | Power failure (Major)                 |
| -        | No power failure                      |
| 1        | Power unit of unit 1                  |
| 2        | Power unit of unit 2                  |
| 3        | Power unit of unit 3                  |
| 4        | Power unit of unit 4                  |
| 5        | Power unit of unit 5                  |
| 6        | Power unit of unit 6                  |
| 7        | Synchronizer (SYNC) 0                 |
| 8        | SYNC 1                                |
| 9        | Cross-Connect Network (CCN or ECCN) 0 |
| 10       | CCN or ECCN 1                         |

For CEF frames,

|    |                       |
|----|-----------------------|
| 11 | power unit of unit 7  |
| 12 | power unit of unit 8  |
| 13 | power unit of unit 9  |
| 14 | power unit of unit 10 |
| 15 | power unit of unit 11 |
| 16 | power unit of unit 12 |
| 17 | power unit of unit 13 |
| 18 | power unit of unit 14 |
| 19 | power unit of unit 15 |
| 20 | power unit of unit 16 |

ALMS a b c d e f g h i j k l m n o p q r s

#### **ALMS** - Alarms

Each of the letters a through s following the keyword ALMS, represents an entity in the DACS II frame. The entities are listed following this paragraph by the letter used to represent them. The values these letters assume give the alarm status of the particular entity. These values are listed immediately following the entity listing. Some entities do not use the full range of values but their values are separately described in the list of entities.

|          |                                                                                                                      |
|----------|----------------------------------------------------------------------------------------------------------------------|
| <b>a</b> | - MC (Main controller)                                                                                               |
| <b>b</b> | - MP (Main processor)                                                                                                |
| <b>c</b> | - CI/ECI (Communications interface)                                                                                  |
| <b>d</b> | - SCC (Secondary source controller)                                                                                  |
| <b>e</b> | - PMEM                                                                                                               |
| <b>f</b> | - SMEM                                                                                                               |
| <b>g</b> | - Link 1                                                                                                             |
| <b>h</b> | - Link 2                                                                                                             |
| <b>i</b> | - Link 3                                                                                                             |
| <b>j</b> | - Link 4                                                                                                             |
| <b>k</b> | - Link 5                                                                                                             |
| <b>l</b> | - Link 6                                                                                                             |
| <b>m</b> | - XC0 (Cross-Connect 0)                                                                                              |
|          | m Explanation                                                                                                        |
|          | - No alarm active                                                                                                    |
|          | M Major Alarm                                                                                                        |
| <b>n</b> | - XC1 (Cross-Connect 1)                                                                                              |
|          | n Explanation                                                                                                        |
|          | - No alarm active                                                                                                    |
|          | M Major Alarm                                                                                                        |
| <b>o</b> | - CCNI 0 (Cross-Connect Network Interface 0 for NonCEF frame)<br>CCI 0 (Clock and Control Interface 0 for CEF frame) |
| <b>p</b> | - CCNI 1 (Cross-Connect Network Interface 1 for NonCEF frame)<br>CCI 1 (Clock and Control Interface 1 for CEF frame) |
| <b>q</b> | - TOD (Time of Day) reset                                                                                            |
| <b>r</b> | - DATE (Time of Day) reset                                                                                           |
| <b>s</b> | - SMEM OOS                                                                                                           |
|          | Value Explanation                                                                                                    |
|          | a Autonomously removed                                                                                               |
|          | - Does not apply, or part of a larger failure group                                                                  |
|          | * Minor alarm                                                                                                        |
|          | M Major alarm                                                                                                        |
|          | C Critical alarm                                                                                                     |

Where a failure group includes more than one circuit pack and individual circuit pack information is available, the character "a" will be used to indicate removal or attempted removal of that pack.

A hyphen (-) indicates the alarm state is not applicable to the particular circuit. For example, an unequipped circuit would display a "-" in its status field.

*DS3U equipment entities:*

Failure of a circuit pack might set the alarm bits of related circuit packs. Alarm bits a through s will be set according to the following rules.

- All DS3 circuit pack entities can be in either state "a" or "-".
- A multiplexer-multiplexer interface unit functional group (MMFG) or an incoming DS3 signal failure will put the associated NPCs in the state "-".
- A failure of a multiplexer (MXR) will not cause the multiplexer interface unit (MIU) pair to be marked "a", even though the failure may cause the attempt to remove that MIU. If only the MXR fails, the MIU will still be in state "-".
- A failure of an MIU will not cause the MXR pair to be marked "a", even though the failure may cause the attempt to remove that MXR. If only the MIU fails, the MXR will still be in state "-".
- A manual removal of a DS3 facility will remove any alarm that might exist on its associated MXR or MIU.
- Because of protection switching in the DS3U, autonomous removal indications (a) for DS3U circuit packs are preserved across a frame boot. The boot operation is required to configure the unit to the protection state maintained in the data base. Data base consistency requires preservation of the "a" state.

*SLC carrier equipment entities:*

Alarm bits a through s will be set according to the following rules.

- Because of protection switching for SLC carrier NPCs, an autonomous removal of a SLC carrier NPC is preserved across a frame boot. The boot operation is required to configure SLC carrier circuits to the protection state maintained in the data base. Data base consistency requires preservation of the "a" state.

SYNC x y

**SYNC** - Synchronizer

**x** - Side 0 alarm status of the synchronizer

**y** - Side 1 alarm status of the synchronizer

x Explanation

M Major alarm

- No alarm



- CRO** - Clock reference oscillator
- x** - Side 0 alarm status of the oscillator
- |   |             |
|---|-------------|
| x | Explanation |
| M | Major alarm |
| - | No alarm    |

TLI a b c d e f g h a b c d e f g h

**TLI** - Timing link interface

- |          |                                                           |
|----------|-----------------------------------------------------------|
| <b>a</b> | - TLI 1 or Synchronizer sync port (SSP) 0 of TLI 1 side 0 |
| <b>b</b> | - SSP 1 of TLI 1 side 0                                   |
| <b>c</b> | - TLI 2 or SSP 0 of TLI 2 side 0                          |
| <b>d</b> | - SSP 1 of TLI 2 side 0                                   |
| <b>e</b> | - TLI 3 or SSP 0 of TLI 3 side 0                          |
| <b>f</b> | - SSP 1 of TLI 3 side 0                                   |
| <b>g</b> | - TLI 4 or SSP 0 of TLI 4 side 0                          |
| <b>h</b> | - SSP 1 of TLI 4 side 0                                   |
|          |                                                           |
| <b>a</b> | - TLI 1 or SSP 0 of TLI 1 side 1                          |
| <b>b</b> | - SSP 1 of TLI 1 side 1                                   |
| <b>c</b> | - TLI 2 or SSP 0 of TLI 2 side 1                          |
| <b>d</b> | - SSP 1 of TLI 2 side 1                                   |
| <b>e</b> | - TLI 3 or SSP 0 of TLI 3 side 1                          |
| <b>f</b> | - SSP 1 of TLI 3 side 1                                   |
| <b>g</b> | - TLI 4 or SSP 0 of TLI 4 side 1                          |
| <b>h</b> | - SSP 1 of TLI 4 side 1                                   |

See the ALMS section given previously for the alarm status values.

For NonCEF frames only:

TSIS tt nn

**TSIS** - Time slot interchangers

**tt** - Total No. of equipped TSIs (1-36)

**nn** - Total No. of alarming TSIs (0-36)

**ft** - Unit numbers

**f** - FROM unit number (1-6)

**t** - TO unit number (1-6)

**x** - Side 0 alarm status of the TSI

**y** - Side 1 alarm status of the TSI

Variables x and y can assume one of the two alarm status values given below.

- - No alarm active

**M** - Major alarm

For CEF frames only:

ETSIS tt nn

**ETSIS** - Expanded time slot interchangers

**tt** - Total No. of equipped ETSIs (01 through 32)

**nn** - Total No. of alarming ETSIs (01 through 32)

UNIT [q]q UC a FTMI b c d e FC f g h i j k l m [CCB r s] [OOS]

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**UC** - Unit controller

**a** - UC status

The UC status values are the same as those given previously for entities a through s in the explanation of ALMS. This table follows the explanation of variable s.

FTMI b c d e

**FTMI** - Facility terminating module interface

- b** - Status for FTMI 1 of specified unit
- c** - Status for FTMI 2 of specified unit
- d** - Status for FTMI 3 of specified unit
- e** - Status for FTMI 4 of specified unit

See the ALMS section given previously for the alarm status values.

FC f g h i j k l m

**FC** - Format converter

- f** - Status for FC 01 of specified FTU
- g** - Status for FC 11 of specified FTU
- h** - Status for FC 02 of specified FTU
- i** - Status for FC 12 of specified FTU
- j** - Status for FC 03 of specified FTU
- k** - Status for FC 13 of specified FTU
- l** - Status for FC 04 of specified FTU
- m** - Status for FC 14 of specified FTU

See the ALMS section given previously for the alarm status values.

For NonCEF frames only:

CCB r s

**CCB** - Cross-connect buffer

- r** - Status for CCB 0q in CCN 0 for specified unit q
- 1G**
- s** - Status for CCB 1q in CCN 1 for specified unit q

See the ALMS section given previously for the alarm status values.

**OOS** - Out-of-Service

The OOS state applies to the Unit Controller.

#### FMT l m

**FMT** - Formatter

**l** - Status for FMT 0 of specified DS3 unit

**m** - Status for FMT 1 of specified DS3 unit

See the ALMS section given previously for the alarm status values.

#### FLI b c

**FLI** - Facility line interface

**b** - Status for service FLI of specified DS3 unit

**c** - Status for protection FLI of specified DS3 unit

See the ALMS section given previously for the alarm status values.

#### MXR d e f g h i j

**MXR** - Multiplexer

**d** - Status for protection MXR of specified DS3 unit

**e** - Status for MXR 1 of specified DS3 unit

**f** - Status for MXR 2 of specified DS3 unit

**g** - Status for MXR 3 of specified DS3 unit

**h** - Status for MXR 4 of specified DS3 unit

**i** - Status for MXR 5 of specified DS3 unit

**j** - Status for MXR 6 of specified DS3 unit

See the ALMS section given previously for the alarm status values.

#### MIU n o p q u v w

**MIU** - Multiple interface unit

**n** - Status for protection MIU of specified DS3 unit

**o** - Status for MIU 1 of specified DS3 unit

**p** - Status for MIU 2 of specified DS3 unit

**q** - Status for MIU 3 of specified DS3 unit

**u** - Status for MIU 4 of specified DS3 unit

**v** - Status for MIU 5 of specified DS3 unit

**w** - Status for MIU 6 of specified DS3 unit

See the ALMS section given previously for the alarm status values.

DSPI b

**DSPI** - Digital signal processing interface

**b** - Status for DSPI (digital signal processing interface) of specified DSPU

See the ALMS section given previously for the alarm status values.

DU DS3 Unprotected Alarm

**aa** - Status of alarm

See the ALMS section given previously for the alarm status values.

### *DS3 FACILITY ALARMS*

ALMS DS3 rr

**DS3** - Digital signal 3 (44.736 Mb/s rate)

**rr** - Total number of **equipped** DS3 facilities in the frame  
NonCEF (01 through 06)  
CEF (01 through 96)

UNIT [q]q y y y y y ALMS gg

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**y** - DS3 facility alarm status.

**gg** - Total number of alarming DS3 facilities in the frame  
NonCEF (01 through 06)  
CEF (01 through 96)

### *SLC CARRIER ALARMS*

**ffff** - RT or DCLU Bank Identification Number (0000 through 9999)

**x** - Status of RT or DCLU alarm

See the ALMS section given previously for the alarm status values.

*FOR FTU AND DS3U NPC ALARM DATA LINES*

- [s]aaa** - The 3- or 4-digit nonhierarchical number of the first NPC in the module
- [t]bbb** - The 3- or 4-digit nonhierarchical number of the last NPC in the module

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical number of the first NPC in the module

**wxkqr** - Hierarchical number of the last NPC in the module

**uv, wx** - Unit number  
**m, k** - Module number  
**np, qr** - NPC number within the module

Valid values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
 Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
 Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**tt** - Total number of equipped NPCs in the FTM  
 01 through 40

**nn** - Total number of alarming NPCs in the FTM  
 01 through 40

*FOR DSPU NPC ALARM DATA LINE*

**[s]zzz** - The 3- or 4-digit nonhierarchical DSPU NPC number

If NPC numbers are expressed in three digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-002</b> | <b>161-162</b> | <b>321-322</b> | <b>481-482</b> | <b>641-642</b> | <b>801-802</b> |
| <b>021-022</b> | <b>181-182</b> | <b>341-342</b> | <b>501-502</b> | <b>661-662</b> | <b>821-822</b> |
| <b>041-042</b> | <b>201-202</b> | <b>361-362</b> | <b>521-522</b> | <b>681-682</b> | <b>841-842</b> |
| <b>061-062</b> | <b>221-222</b> | <b>381-382</b> | <b>541-542</b> | <b>701-702</b> | <b>861-862</b> |
| <b>081-082</b> | <b>241-242</b> | <b>401-402</b> | <b>561-562</b> | <b>721-722</b> | <b>881-882</b> |
| <b>101-102</b> | <b>261-262</b> | <b>421-422</b> | <b>581-582</b> | <b>741-742</b> | <b>901-902</b> |
| <b>121-122</b> | <b>281-282</b> | <b>441-442</b> | <b>601-602</b> | <b>761-762</b> | <b>921-922</b> |
| <b>141-142</b> | <b>301-302</b> | <b>461-462</b> | <b>621-622</b> | <b>781-782</b> | <b>941-942</b> |



If NPC numbers are expressed in four digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1  | Unit<br>2  | Unit<br>3  | Unit<br>4  |
|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| 0001-0002  | 0161-0162  | 0321-0322  | 0481-0482  |
| 0021-0022  | 0181-0182  | 0341-0342  | 0501-0502  |
| 0041-0042  | 0201-0202  | 0361-0362  | 0521-0522  |
| 0061-0062  | 0221-0222  | 0381-0382  | 0541-0542  |
| 0081-0082  | 0241-0242  | 0401-0402  | 0561-0562  |
| 0101-0102  | 0261-0262  | 0421-0422  | 0581-0582  |
| 0121-0122  | 0281-0282  | 0441-0442  | 0601-0602  |
| 0141-0142  | 0301-0302  | 0461-0462  | 0621-0622  |

| Unit<br>5  | Unit<br>6  | Unit<br>7  | Unit<br>8  |
|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| 0641-0642  | 0801-0802  | 0961-0962  | 1121-1122  |
| 0661-0662  | 0821-0822  | 0981-0982  | 1141-1142  |
| 0681-0682  | 0841-0842  | 1001-1002  | 1161-1161  |
| 0701-0702  | 0861-0862  | 1021-1022  | 1181-1182  |
| 0721-0722  | 0881-0882  | 1041-1042  | 1201-1202  |
| 0741-0742  | 0901-0902  | 1061-1062  | 1221-1222  |
| 0761-0762  | 0921-0922  | 1081-1082  | 1241-1242  |
| 0781-0782  | 0941-0942  | 1101-1102  | 1261-1262  |

| Unit<br>9  | Unit<br>10 | Unit<br>11 | Unit<br>12 |
|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| 1281-1282  | 1441-1442  | 1601-1602  | 1761-1762  |
| 1301-1302  | 1461-1462  | 1621-1622  | 1781-1782  |
| 1321-1322  | 1481-1482  | 1641-1642  | 1801-1802  |
| 1341-1342  | 1501-1502  | 1661-1662  | 1821-1822  |
| 1361-1362  | 1521-1522  | 1681-1682  | 1841-1842  |
| 1381-1382  | 1541-1542  | 1701-1702  | 1861-1862  |
| 1401-1402  | 1561-1562  | 1721-1722  | 1881-1882  |
| 1421-1422  | 1581-1582  | 1741-1742  | 1901-1902  |

| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-1922</b> | <b>2081-2082</b> | <b>2241-2242</b> | <b>2401-2402</b> |
| <b>1941-1942</b> | <b>2101-2102</b> | <b>2261-2262</b> | <b>2421-2422</b> |
| <b>1961-1962</b> | <b>2121-2122</b> | <b>2281-2282</b> | <b>2441-2442</b> |
| <b>1981-1982</b> | <b>2141-2142</b> | <b>2301-2302</b> | <b>2461-2462</b> |
| <b>2001-2002</b> | <b>2161-2162</b> | <b>2321-2322</b> | <b>2481-2482</b> |
| <b>2021-2022</b> | <b>2181-2182</b> | <b>2341-2342</b> | <b>2501-2502</b> |
| <b>2041-2042</b> | <b>2201-2202</b> | <b>2361-2362</b> | <b>2521-2522</b> |
| <b>2061-2062</b> | <b>2221-2222</b> | <b>2381-2382</b> | <b>2541-2542</b> |

If NPC numbers are expressed in three digits, the valid values are:

SR and MJ type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1  | Unit<br>2  | Unit<br>3  | Unit<br>4  | Unit<br>5  | Unit<br>6  |
|------------|------------|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| <b>001</b> | <b>161</b> | <b>321</b> | <b>481</b> | <b>641</b> | <b>801</b> |
| <b>021</b> | <b>181</b> | <b>341</b> | <b>501</b> | <b>661</b> | <b>821</b> |
| <b>041</b> | <b>201</b> | <b>361</b> | <b>521</b> | <b>681</b> | <b>841</b> |
| <b>061</b> | <b>221</b> | <b>381</b> | <b>541</b> | <b>701</b> | <b>861</b> |
| <b>081</b> | <b>241</b> | <b>401</b> | <b>561</b> | <b>721</b> | <b>881</b> |
| <b>101</b> | <b>261</b> | <b>421</b> | <b>581</b> | <b>741</b> | <b>901</b> |
| <b>121</b> | <b>281</b> | <b>441</b> | <b>601</b> | <b>761</b> | <b>921</b> |
| <b>141</b> | <b>301</b> | <b>461</b> | <b>621</b> | <b>781</b> | <b>941</b> |

If NPC numbers are expressed in four digits, the valid values are:

SR and MJ type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1   | Unit<br>2   | Unit<br>3   | Unit<br>4   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0001</b> | <b>0161</b> | <b>0321</b> | <b>0481</b> |
| <b>0021</b> | <b>0181</b> | <b>0341</b> | <b>0501</b> |
| <b>0041</b> | <b>0201</b> | <b>0361</b> | <b>0521</b> |
| <b>0061</b> | <b>0221</b> | <b>0381</b> | <b>0541</b> |
| <b>0081</b> | <b>0241</b> | <b>0401</b> | <b>0561</b> |
| <b>0101</b> | <b>0261</b> | <b>0421</b> | <b>0581</b> |
| <b>0121</b> | <b>0281</b> | <b>0441</b> | <b>0601</b> |
| <b>0141</b> | <b>0301</b> | <b>0461</b> | <b>0621</b> |

| Unit<br>5   | Unit<br>6   | Unit<br>7   | Unit<br>8   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0641</b> | <b>0801</b> | <b>0961</b> | <b>1121</b> |
| <b>0661</b> | <b>0821</b> | <b>0981</b> | <b>1141</b> |
| <b>0681</b> | <b>0841</b> | <b>1001</b> | <b>1161</b> |
| <b>0701</b> | <b>0861</b> | <b>1021</b> | <b>1181</b> |
| <b>0721</b> | <b>0881</b> | <b>1041</b> | <b>1201</b> |
| <b>0741</b> | <b>0901</b> | <b>1061</b> | <b>1221</b> |
| <b>0761</b> | <b>0921</b> | <b>1081</b> | <b>1241</b> |
| <b>0781</b> | <b>0941</b> | <b>1101</b> | <b>1261</b> |
| Unit<br>9   | Unit<br>10  | Unit<br>11  | Unit<br>12  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1281</b> | <b>1441</b> | <b>1601</b> | <b>1761</b> |
| <b>1301</b> | <b>1461</b> | <b>1621</b> | <b>1781</b> |
| <b>1321</b> | <b>1481</b> | <b>1641</b> | <b>1801</b> |
| <b>1341</b> | <b>1501</b> | <b>1661</b> | <b>1821</b> |
| <b>1361</b> | <b>1521</b> | <b>1681</b> | <b>1841</b> |
| <b>1381</b> | <b>1541</b> | <b>1701</b> | <b>1861</b> |
| <b>1401</b> | <b>1561</b> | <b>1721</b> | <b>1881</b> |
| <b>1421</b> | <b>1581</b> | <b>1741</b> | <b>1901</b> |
| Unit<br>13  | Unit<br>14  | Unit<br>15  | Unit<br>16  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1921</b> | <b>2081</b> | <b>2241</b> | <b>2401</b> |
| <b>1941</b> | <b>2101</b> | <b>2261</b> | <b>2421</b> |
| <b>1961</b> | <b>2121</b> | <b>2281</b> | <b>2441</b> |
| <b>1981</b> | <b>2141</b> | <b>2301</b> | <b>2461</b> |
| <b>2001</b> | <b>2161</b> | <b>2321</b> | <b>2481</b> |
| <b>2021</b> | <b>2181</b> | <b>2341</b> | <b>2501</b> |
| <b>2041</b> | <b>2201</b> | <b>2361</b> | <b>2521</b> |
| <b>2061</b> | <b>2221</b> | <b>2381</b> | <b>2541</b> |

**uvmnp** - Hierarchical DSPU NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

Valid values are listed below:

MB type NPC numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-8</b> | <b>01-02</b> |

SR and MJ NPC numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

| Unit         | Module     | NPC       |
|--------------|------------|-----------|
| <b>01-16</b> | <b>1-8</b> | <b>01</b> |

**nn** - Total number of alarming DS NPCs per unit (01 through 16)

## **UTL,QRY,ALMS,DBASE**

### **UTILITY QUERY ALARMS**

#### **Explanation Of Command**

This message reports the following alarms:

Critical frame alarms caused by duplex failures

Failed or out-of-service alarms for the FTU NPCs

#### **Command**

[I.53151]

**UTL:FRM xy,SEQ ww:QRY,ALMS,DBASE!**

## Completion Message

### Nonhierarchical

[O.53151]

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS c EOM

[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS CB NPC BOFL 2 LN MSG:]  
[[s]ghi [s]ghi [s]ghi [s]ghi [s]ghi [s]ghi [s]ghi [s]ghi EOM]

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS FTU NPC A00S e LN MSG:  
[s]abc [s]abc [s]abc [s]abc [s]abc [s]abc [s]abc [s]abc

.  
[s]abc [s]abc [s]abc [s]abc [s]abc [s]abc [s]abc [s]abc EOM

.  
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS FTU NPC A00S e LN MSG:  
[s]abc [s]abc [s]abc [s]abc [s]abc [s]abc [s]abc [s]abc

.  
[s]abc [s]abc [s]abc [s]abc [s]abc [s]abc [s]abc [s]abc EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS CGA [s]abc k[l[m[...]]] EOM

.  
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS CGA [t]def k[l[m[...]]] EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS NPC [s]abc[ PBA k[l[m[...]]] ] \  
[ TS0 abcdefgh] EOM

.  
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS NPC [t]def[ PBA k[l[m[...]]] ] \  
[ TS0 abcdefgh] EOM

M hh:mm:ss xy,mm n[vv] UTL QRY ALMS DBASE COMPL

### **Hierarchical**

---

[O.53151]

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS c EOM

[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS CB NPC BOFL 2 LN MSG:]

[edfgh edfgh edfgh edfgh edfgh edfgh edfgh EOM]

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS FTU NPC A00S e LN MSG:

uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp

.

.

uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp EOM

.

.

.

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS FTU NPC A00S e LN MSG:

uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp

.

.

uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS CGA uvmnp k[l[m]...] EOM

.

.

.

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS CGA wxkqr k[l[m]...] EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS NPC uvmnp[ PBA k[l[m]...]] \

[ TS0 abcdefgh] EOM

.

.

.

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS NPC wxkqr[ PBA k[l[m]...]] \

[ TS0 abcdefgh] EOM

M hh:mm:ss xy,mm n[vv] UTL QRY ALMS DBASE COMPL

### **Denial Message**

---

Not applicable.

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

---

ALM(S) - Alarm(s)

**DBASE** - Data base

Used to provide the output necessary to verify data base coherence between DACS II and the DACS controller.

**c** - Duplex frame alarm status

*c*      *Explanation*

1      Duplex frame alarm

0      No Duplex frame alarm

**NPC** - Network processing circuit

**e** - Number of lines in message (from 1 to 5 lines)

**FTU** - Facility terminating unit

Only alarmed FTU NPCs will be reported. Hence the number of NPCs in the message and the number of lines will be variable.

**[s]abc, [t]def**

- The 3- or 4-digit nonhierarchical NPC numbers.

**uvmnp** - Hierarchical FTU NPC number

**wxkqr** - Hierarchical FTU NPC number

**uv, wx** - Unit number

**m, k** - Module number

**np, qr** - NPC number within the module

The values are:

DE and DS type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

**BOFL** - Buffer overflow

**A00S** - Autonomous out-of-service (autonomous removal)



**CGA** - Carrier group alarm

**k, l, m, . . .**

- Representation for multiple alarms

*k, l, or m (CGA) Explanation*

|          |                                                                             |
|----------|-----------------------------------------------------------------------------|
| <b>A</b> | AIS - Alarm Indication Signal; also known as All Ones Signal or Blue Signal |
| <b>B</b> | Both - Yellow and Red (Note: B is valid only for SLC® Series 5 NPCs)        |
| <b>L</b> | LMA - Local Multiframe Alarm                                                |
| <b>M</b> | RMA - Remote Multiframe Alarm                                               |
| <b>R</b> | Red                                                                         |
| <b>Y</b> | Yellow                                                                      |

## UTL, QRY, ALMS, RT, DL

### UTILITY QUERY ALARMS

#### Explanation Of Command

This message retrieves the information of non-digroup-associated alarm(s) declared for a SLC<sup>®</sup> carrier remote terminal. Two completion output formats, O.53141 and O.53142, are employed for this message. Message O.53141 is used to present SLC<sup>®</sup> Series 5 carrier Feature Package C (FPC) related alarms, and message O.53142 is used for SLC 96 carrier-related alarms.

#### Command

[I.53141]

UTL:FRM xy,SEQ ww:QRY,ALMS,{RT|DL} ffff!

#### Completion Message

[O.53141]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS {RT|DL} ffff MD g[g] 3 LN MSG:
DLF  MISC1  MISC2  PWR  COMP  EEPROM  RGF  {RT|DL}
tuu   uu    uu    uu   uu    uu      uu   uu    COMPL
```

[O.53142]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS {RT|DL} ffff MD g[g][ SWMN x] 3 LN MSG:
PWR  MISC  {RT|DL}
uu   uu   uu    COMPL
```

---

### Denial Message

[O.53141.01]

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS {RT|DL} ffff[ MD g[g]] \  
COND cc DNY

---

### Autonomous Message

Not applicable.

---

### Explanation Of Parameters

**ALMS** - Alarm

**RT** - Remote terminal

**DL** - Digital carrier line unit (DCLU)

**ffff** - Remote Terminal ID number (0000 through 9999)

**MD** - Mode

**g[g]** - Operation Mode of a SLC® carrier bank

| g[g] | Explanation              |
|------|--------------------------|
| 1    | SLC 96 carrier Mode 1    |
| 3    | SLC 96 carrier Mode 3    |
| C    | SLC Series 5 carrier FPC |

**DLF** - Data link failure

**tuu** - DLF states

| tuu | Explanation                         |
|-----|-------------------------------------|
| AMN | DLF on Digroup A causes minor alarm |
| PMN | DLF on Digroup P causes minor alarm |
| --- | No DLF                              |

**MISC1** - Miscellaneous alarm 1

**MISC2** - Miscellaneous alarm 2

**PWR** - Power alarm

**COMP** - Compatibility alarm

**EEPROM** - EEPROM Alarm

**RGF** - Ringing generator failure

**uu** - States for other alarms

uu Explanation

MJ Major alarm

MN Minor alarm

MM Major alarm and Minor alarm coexisting

-- No alarm

**SWMN** - Protection switch related minor alarm

**x** - Protection switch related minor alarm handling setting

*x Explanation*

R Declare locally and send MN via data link to the DCLU

L Declare locally only

**cc** - Hexadecimal condition code

*cc Explanation*

**11** UC is out of service

**12** UC is in service but failed

**7E** Bank id number not found

**FA** The mode of the RT is not applicable

---

## UTL, QRY, BCAST, ALL

---

### QUERY BROADCAST ALL

#### Explanation Of Command

---

This message requests a source listing for all the FROM terminations or for the clear DS1 network processing circuits that are associated with broadcast connections.

The ABT command may be used to stop the output of this message. The ABT-CMD command may be used to stop the output of this message.

#### Command

---

[I.52101]

UTL : : QRY, BCAST, ALL !

#### Completion Message

---

#### Nonhierarchical

---

[O.52101]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST ALL xx e LN MSG:
[[s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj]
[[s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj]
[[s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj]
[s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj EOM

.
.
.

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST ALL xx e LN MSG:
[[s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj]
[[s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj]
[[s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj]
[[s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj [s]rstjjj COMPL
```

## Hierarchical

---

[O.52101]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST ALL xx e LN MSG:
[uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj]
[uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj]
[uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj]
[uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj]
uvmpnj uvmpnj uvmpnj uvmpnj uvmpnj uvmpnj {EOM|COMPL}
```

.  
.  
.

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST ALL xx e LN MSG:
[uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj]
[uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj]
[uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj]
[uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj] [uvmpnj]
uvmpnj uvmpnj uvmpnj uvmpnj uvmpnj uvmpnj COMPL
```

## Common

---

If there is no broadcast connection

[O.52101]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST ALL 000 COMPL
```

## Denial Message

---

Not applicable.

## Autonomous Message

---

Not applicable.

## Explanation Of Parameters

**BCAST** - Broadcast

**ALL** - All (NPCs)

**xx** - Number of data fields (terminations) in a segment (01 through 32)

**e** - Number of lines in a message segment (2 through 5)

**[s]rstjjj**

- Nonhierarchical termination number of a broadcast source

The termination number will be output as 0000000 if there is no source information for the termination.

**[s]rst** - The 3- or 4-digit nonhierarchical NPC number belonging to FTU or DS3U

**jjj** - Source channel number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |



| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

#### uvmnpjjj

- Hierarchical NPC number of a broadcast source

The termination number will be output as 0000000 if there is no source information for the termination.

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module  
**jjj** - Source channel number

The allowable values are presented below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**jjj** - Source channel number

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

## **UTL,QRY,BCAST,FROM**

### **UTILITY QUERY BROADCAST**

#### **Explanation Of Command**

This command requests a listing of the tributaries (**TO**) connected to a specified broadcast type source (**FROM**).

The output message header line lists the full tributary, and the data lines list all the tributaries (**TOs**) connected to a broadcast type circuit with the specified source (**FROM**). Other **TOs** will appear in following lines, with sufficient lines to report all of the **TOs** involved, six per line. The last line of the message will be filled with zeros if there are less than eight **TOs** (or a multiple thereof) connected.

You must enter the first channel of the broadcast source for this command.

#### **Command**

##### **Nonhierarchical**

[I.52111]

UTL:FRM xy,SEQ ww:QRY,BCAST,FROM [s]abcddd!

##### **Hierarchical**

[I.52111]

UTL:FRM xy,SEQ ww:QRY,BCAST,FROM uvmnpddd!

---

## Completion Message

---

### Nonhierarchical

---

[O.52111]

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abcd-dd-eee TO [t]ghijjj xx e LN MSG:  
[[t]rstuuu [t]rstuuu [t]rstuuu [t]rstuuu [t]rstuuu [t]rstuuu [t]rstuuu [t]rstuuu]  
[[t]rstuuu [t]rstuuu [t]rstuuu [t]rstuuu [t]rstuuu [t]rstuuu [t]rstuuu [t]rstuuu]  
[[t]rstuuu [t]rstuuu [t]rstuuu [t]rstuuu [t]rstuuu [t]rstuuu [t]rstuuu [t]rstuuu]  
[t]rstuuu [t]rstuuu [t]rstuuu [t]rstuuu [t]rstuuu [t]rstuuu [t]rstuuu [t]rstuuu COMPL

### Hierarchical

---

[O.52111]

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM uvmnpddd-eee TO wxkqrjjj xx e LN MSG:  
[edhfguuu edhfguuu edhfguuu edhfguuu edhfguuu edhfguuu edhfguuu edhfguuu]  
[edhfguuu edhfguuu edhfguuu edhfguuu edhfguuu edhfguuu edhfguuu edhfguuu]  
[edhfguuu edhfguuu edhfguuu edhfguuu edhfguuu edhfguuu edhfguuu edhfguuu]  
edhfguuu edhfguuu edhfguuu edhfguuu edhfguuu edhfguuu edhfguuu edhfguuu COMPL

---

## Denial Message

---

### Nonhierarchical

---

[O.52111.01]

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abcd-dd UEQD DNY

[O.52111.02]

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abcd-dd NOBBL DNY

[O.52111.03]

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abcd-dd RT ffff MD g[g] [t]aaa COND cc DNY

[O.52111.04]

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abcd-dd COND cc DNY

## Hierarchical

[O.52111.01]

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM uvmnpddd UEQD DNY

[O.52111.02]

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM uvmnpddd NOBBL DNY

[O.52111.03]

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM uvmnpddd RT ffff MD g[g] \ wxjaa COND cc DNY

[O.52111.04]

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM uvmnpddd COND cc DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

[s]abcd

- Nonhierarchical FROM termination number

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number belonging to FTU (FT type) or DS3U (DT type)

ddd - Channel number denoting the first channel of a channel range specification

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical FROM termination number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The allowable values are presented below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

001-024 (Domestic)

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

If a data line contains fewer tributaries than data fields the data fields without corresponding tributary information will be filled with zeros.

**[t]ghi**

- Nonhierarchical termination number

**[t]ghi** - The 3- or 4-digit nonhierarchical NPC number of the full tributary with the same valid values as [s]abc.

**jjj** - Channel number of the full tributary with the same valid values as ddd.

**[t]rstuu**

- Nonhierarchical termination number

**[t]rst** - The 3- or 4-digit nonhierarchical NPC number of additional tributaries with the same valid values as [s]abc.

**uuu** - Channel number of additional tributaries with the same valid values as ddd.

**[t]aaa** - The 3- or 4-digit nonhierarchical TO NPC number of an RT/DL Digroup A with the same valid values as [s]abc.

**wxkqr** - Hierarchical TO termination number with the same valid values as uvmnp.

**edhfg** - Hierarchical TO termination number with the same valid values as uvmnp

**wxjaa** - Hierarchical TO termination number of an RT/DL Digroup A with the same valid values as uvmnp

**eee** - Channel number denoting the last channel of a range specification with the same valid values as ddd.

**xx** - Number of data fields in the current message segment (01 through 32)

**e** - Number of lines in the message (2 through 5)

**UEQD** - Unequipped

**NOBBL** - No backbone leg

The requested printout of all the tributaries connected to the DACS II broadcast source abcd44 was denied because the source NPC was not a backbone leg.

**RT** - Remote terminal

**ffff** - Bank identification number (0000 through 9999)

**MD** - Mode

**[g]g** - Mode of operation

| <i>[g]g</i> | <i>Explanation</i> |
|-------------|--------------------|
|-------------|--------------------|

|   |                       |
|---|-----------------------|
| 1 | SLC 96 Carrier Mode 1 |
|---|-----------------------|

|   |                       |
|---|-----------------------|
| 3 | SLC 96 Carrier Mode 3 |
|---|-----------------------|

|   |                                          |
|---|------------------------------------------|
| C | SLC Series 5 Carrier (Feature Package C) |
|---|------------------------------------------|

**COND** - Condition

**cc** - Hexadecimal condition code

| <b>cc</b> | <b>Explanation</b> |
|-----------|--------------------|
|-----------|--------------------|

|           |                         |
|-----------|-------------------------|
| <b>0B</b> | <b>Invalid CEPT NPC</b> |
|-----------|-------------------------|

|           |                               |
|-----------|-------------------------------|
| <b>62</b> | <b>Invalid channel number</b> |
|-----------|-------------------------------|

|           |                     |
|-----------|---------------------|
| <b>63</b> | <b>NPC is a DGP</b> |
|-----------|---------------------|

|           |                         |
|-----------|-------------------------|
| <b>7F</b> | <b>NPC is not added</b> |
|-----------|-------------------------|

|           |                                                                         |
|-----------|-------------------------------------------------------------------------|
| <b>F7</b> | <b>Corresponding NPC for<br/>virtual channel is not<br/>provisioned</b> |
|-----------|-------------------------------------------------------------------------|

|           |                         |
|-----------|-------------------------|
| <b>70</b> | <b>NPC invalid type</b> |
|-----------|-------------------------|

|           |                                |
|-----------|--------------------------------|
| <b>B4</b> | <b>NPC is channelized type</b> |
|-----------|--------------------------------|



## **UTL, QRY, BCAST, FROM**

### **UTILITY QUERY BROADCAST FROM**

#### **Explanation Of Command**

This message requests a listing of the tributary network processing circuits that is associated with a non-channelized digital signal broadcast connection.

#### **Command**

##### **Nonhierarchical**

[I.52121]

UTL:FRM xy,SEQ ww:QRY,BCAST,FROM [s]abc!

##### **Hierarchical**

[I.52121]

UTL:FRM xy,SEQ ww:QRY,BCAST,FROM uvmnp!

#### **Completion Message**

##### **Nonhierarchical**

[O.52121]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abc \
TO [t]ghi xxx e LN MSG:
  [t]rst [t]rst [t]rst [t]rst  [t]rst [t]rst [t]rst [t]rst
  [t]rst [t]rst [t]rst [t]rst  [t]rst [t]rst [t]rst [t]rst
  [t]rst [t]rst [t]rst [t]rst  [t]rst [t]rst [t]rst [t]rst
  [t]rst [t]rst [t]rst [t]rst  [t]rst [t]rst [t]rst [t]rst EOM

      .
      .
      .
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abc \
TO [t]ghi xxx e LN MSG:
  [t]rst [t]rst [t]rst [t]rst  [t]rst [t]rst [t]rst [t]rst
  [t]rst [t]rst [t]rst [t]rst  [t]rst [t]rst [t]rst [t]rst
  [t]rst [t]rst [t]rst [t]rst  [t]rst [t]rst [t]rst [t]rst
  [t]rst [t]rst [t]rst [t]rst  [t]rst [t]rst [t]rst [t]rst COMPL
```

OR

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abc 000 COMPL
```

## Hierarchical

[O.52121]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM uvmpn \
TO ghijk xxx e LN MSG:
  wxkqr wxkqr wxkqr wxkqr  wxkqr wxkqr wxkqr wxkqr
  wxkqr wxkqr wxkqr wxkqr  wxkqr wxkqr wxkqr wxkqr
  wxkqr wxkqr wxkqr wxkqr  wxkqr wxkqr wxkqr wxkqr
  wxkqr wxkqr wxkqr wxkqr  wxkqr wxkqr wxkqr wxkqr EOM

      .
      .
      .
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM uvmpn \
TO ghijk xxx e LN MSG:
  wxkqr wxkqr wxkqr wxkqr  wxkqr wxkqr wxkqr wxkqr
  wxkqr wxkqr wxkqr wxkqr  wxkqr wxkqr wxkqr wxkqr
  wxkqr wxkqr wxkqr wxkqr  wxkqr wxkqr wxkqr wxkqr
  wxkqr wxkqr wxkqr wxkqr  wxkqr wxkqr wxkqr wxkqr COMPL
```

OR

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM uvmpn 000 COMPL
```

## **Denial Message**

---

### **Nonhierarchical**

---

[O.52121.01]

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abc UEQD DNY

[O.52121.02]

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abc NOBBL DNY

[O.52121.03]

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abc COND cc DNY

### **Hierarchical**

---

[O.52121.01]

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM uvmnp UEQD DNY

[O.52121.02]

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM uvmnp NOBBL DNY

[O.52121.03]

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM uvmnp COND cc DNY

## **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

---

**BCAST** - Broadcast

**FROM** - From

Source network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical non-channelized source (FROM)  
NPC Number, whose tributaries will be listed

**[t]ghi** - The 3- or 4-digit full tributary (TO) NPC number

**[t]rst** - The 3- or 4-digit tributary (TO) NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |
| <b>16A-16H</b>               | <b>32A-32H</b>               | <b>48A-48H</b>               | <b>64A-64H</b>               | <b>80A-80H</b>               | <b>96A-96H</b>               |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical number of source (FROM) NPC  
**ghijk** - Hierarchical number of full tributary (TO) NPC  
**wxkqr** - Hierarchical number of tributary (TO) NPC

**uv, gh, wx**  
- Unit number  
**m, i, k**  
- Module number  
**np, jk, qr**  
- NPC number within the module

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit  | Module | NPC   |
|-------|--------|-------|
| 01-16 | 1-6    | 01-28 |

**NOBBL** - No backbone leg

**UEQD** - Unequipped

**COND** - Condition

**T0** - To  
Tributary

**e** - Number of lines in each message segment (2 through 5)

**xxx** - Number of tributary NPCs in the broadcast connection

**cc** - Hexadecimal condition code

**cc Explanation**

**0B Invalid CEPT NPC**

**B4 NPC is channelized type**

## **UTL, QRY, CMAP**

---

### **QUERY PARTIAL CROSS-CONNECT MAP**

#### **Explanation Of Command**

---

This command requests a printout of the DACS II cross-connect map for a single network processing circuit (NPC) or a range of NPCs in a facility terminating unit (FTU), digital signal processing unit (DSPU), or DS3 unit (DS3U).

If a range of NPCs is specified in this command, DACS II will output the cross-connect maps for only those NPCs that are equipped and have at least one cross-connected channel.

The execution of the command and the generation of the output are aborted by entering ABT

If the range includes non-channelized NPCs, only the DAxyz types are mapped and listed. If the NPCs are unmapped, the TO NPC number is omitted.

The output segment has one or two lines.

For 64 kbit/s test access, the FROM and TO terminations under test by the corresponding active testport channels will be displayed rather than far-end mapped terminations.

For non-channelized digital signal test access, the FROM and TO NPCs of the circuit under test are listed, and if only one NPC is actually under test, it is listed first.

**Note:** No range is allowed for virtual NPCs.

**Note 2:** This command is invalid for Subrate NPCs.

### **Command**

---

### **Nonhierarchical**

---

[l.52011]

UTL:[FRM xy,SEQ ww]:QRY,CMAP [s]abc[-[t]def]!

### **Hierarchical**

---

[l.52011]

UTL:[FRM xy,SEQ ww]:QRY,CMAP uvmnp[-wxkqr]!



## Completion Message

### Nonhierarchical

**Note:** The following message segments will be output for each DE, DS, DA, TE, and TA NPC.

If the 3-digit nonhierarchical NPC number is used, the following message segment will be output for each 24-channel NPC. Each segment shall contain eight terminations per line as shown below, where **ghi** is the nonhierarchical NPC number:

If the header line has 80 or less characters:

[O.52011]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP abc mnxyz ccc-ddd[ {ACTPL|NACPL}]\
[ kkk][ {SWMR|SWAR}][ FDL tlmndddr][ {NPCTP|NPCTG|ROLL}] 4 LN MSG:
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr EOM
```

If the header line is longer than 80 characters:

[O.52011]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP def mnxyz ccc-ddd[ {ACTPL|NACPL}]\
[ kkk][ {SWMR|SWAR}] 5 LN MSG:
[ FDL tlmndddr][ {NPCTP|NPCTG|ROLL}]
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr EOM
```

**Note:** If the 3-digit nonhierarchical NPC number is used, the following message segment will be output for each Clear-DS1 NPC.

[O.52011]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP jkl mnxyz[ {FAD <tmode>|ROLL}] \
[t]ghi[r][ ghi] EOM
```

If the 4-digit nonhierarchical NPC number is used, the following message segment will be output for each 24-channel NPC. Each segment shall contain six terminations per line as shown below, where the **vgghi** is the nonhierarchical NPC number.

If the header line has 80 or less characters:

[O.52011]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP sabc mnxyz ccc-ddd[ {ACTPL|NACPL}]\
[ tkkk][ {SWMR|SWAR}][ FDL tulmndddr][ {NPCTP|NPCTG|ROLL}] 5 LN MSG:
tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr
tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr
tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr
tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr EOM
```

If the header line is longer than 80 characters:

[O.52011]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP sabc mnxyz ccc-ddd[ {ACTPL|NACPL}]\
[ tkkk][ {SWMR|SWAR}] 6 LN MSG:
[FDL tulmndddr][ {NPCTP|NPCTG|ROLL}]
tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr
tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr
tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr
tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr EOM
```

If the 4-digit nonhierarchical NPC number is used, the following message segment will be output for each Clear-DS1 NPC.

[O.52011]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP sjkl mnxyz[ {FAD <tmode>|ROLL}] \
[t]vghi[r][ vghi] EOM
```

If the 3-digit nonhierarchical NPC number is used, the following two message segments will be output for each SP100 NPC. Each segment shall contain eight terminations per line as shown below, where the **ghi** is the nonhierarchical NPC number.

[O.52017]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP jkl SP100 001-032 5 LN MSG:
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP jkl SP100 033-064 5 LN MSG:
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj EOM
```

If the 4-digit nonhierarchical NPC number is used, the following two message segments will be output for each SP100 NPC. Each segment shall contain eight terminations per line as shown below, where the **vghi** is the nonhierarchical NPC number.

[O.52017]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP sjkl SP100 001-032 5 LN MSG:
vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy
vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy
vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy
vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP sjkl SP100 033-064 5 LN MSG:
vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy
vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy
vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy
vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy vghiyyy EOM
```

**Note:** The following two message segments will be output for each MB NPC.

[O.52013]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP [s]mbn MB100 001-064 DPLX 5 LN MSG:
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP [s]mbn MB100 065-085 DPLX 3 LN MSG:
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll EOM
```

**Note:** The following message segment will be output as many times as needed for each VI NPC.

[O.52014]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP [s]vnp TYPE VI100 xx e LN MSG:
[tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn]
[tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn]
[tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn]
tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn EOM
```

**Note:** The following completion message segment will be output after all other NPC segments have been output.

[O.52011]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP COMPL
```

## Hierarchical

**Note:** The following message segment will be output for each DE, DS, DA, TE, and TA NPC.

If the header line has 80 or less characters:

[O.52011]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP uvmnp mnxyz ccc-ddd[ {ACTPL|NACPL}]\
[ uvkkk][ {SWMR|SWAR}][ FDL tjklmndddr][ {NPCTP|NPCTG|ROLL}] 7 LN MSG:
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr EOM
```

If the header line is longer than 80 characters:

[O.52011]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP uvmnp mnxyz ccc-ddd[ {ACTPL|NACPL}]\
[ uvkkk][ {SWMR|SWAR}] 8 LN MSG:
[FDL tjklmndddr][ {NPCTP|NPCTG|ROLL}]
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr EOM
```

**Note:** The following message segment will be output for each Clear-DS1 NPC.

[O.52011]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP edhfg mnxyz[ {FAD <tmode>|ROLL}] 2 LN MSG:
[t]ghikl[r][ ghikl] EOM
```

**Note:** The following two message segments will be output for each SP100 NPC. Each segment shall contain eight terminations per line as shown below, where the **ghikl** is the hierarchical NPC number.

[O.52017]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP edhfg SP100 001-032 5 LN MSG:
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP edhfg SP100 033-064 5 LN MSG:
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj EOM
```

**Note:** The following two message segments will be output for each MB NPC.

[O.52013]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP mbnop MB100 001-064 DPLX 5 LN MSG:
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP mbnop MB100 065-085 DPLX 3 LN MSG:
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll EOM
```

**Note:** The following message segment will be output as many times as needed for each VI NPC.

[O.52014]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP vnprs TYPE VI100 xx e LN MSG:
[tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn]
[tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn]
[tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn]
tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn EOM
```

**Note:** The following completion message segment will be output after all other NPC segments have been output.

[O.52011]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP COMPL
```

## Denial Message

---

### Nonhierarchical

---

[O.52011.01]

M hh:mm:ss xy,ww n[vv] UTL QRY CMAP [w]mno UEQD DNY

[O.52011.02]

M hh:mm:ss xy,ww n[vv] UTL QRY CMAP [s]abc[-[t]def] COND cc DNY

### Hierarchical

---

[O.52011.01]

M hh:mm:ss xy,ww n[vv] UTL QRY CMAP edmno UEQD DNY

[O.52011.02]

M hh:mm:ss xy,ww n[vv] UTL QRY CMAP uvmnp[-wxkqr] COND cc DNY

## Autonomous Message

---

Not applicable.

## Explanation Of Parameters

---

**CMAP** - Cross-connect map

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number, the first number of a range

**[t]def** - The 3- or 4-digit nonhierarchical NPC number, the last number of a range

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

**Note:** Only ODD NPC numbers are valid in the tables listed below. The even numbered NPC is not available for any other NPC type.

If NPC numbers are expressed in three digits, the valid values are:

SP type NPC numbers listed by unit number, Unit Type FT (FTU)

|                              |                              |                              |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
| <b>NPC</b><br><b>001-031</b> | <b>NPC</b><br><b>161-191</b> | <b>NPC</b><br><b>321-351</b> | <b>NPC</b><br><b>481-511</b> | <b>NPC</b><br><b>641-671</b> | <b>NPC</b><br><b>801-831</b> |
| <b>041-071</b>               | <b>201-231</b>               | <b>361-391</b>               | <b>521-551</b>               | <b>681-711</b>               | <b>841-871</b>               |
| <b>081-111</b>               | <b>241-271</b>               | <b>401-431</b>               | <b>561-591</b>               | <b>721-751</b>               | <b>881-911</b>               |
| <b>121-151</b>               | <b>281-311</b>               | <b>441-471</b>               | <b>601-631</b>               | <b>761-791</b>               | <b>921-951</b>               |

If NPC numbers are expressed in four digits, the valid values are:

SP type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0031</b> | <b>0161-0191</b> | <b>0321-0351</b> | <b>0481-0511</b> |
| <b>0041-0071</b> | <b>0201-0231</b> | <b>0361-0391</b> | <b>0521-0551</b> |
| <b>0081-0111</b> | <b>0241-0271</b> | <b>0401-0431</b> | <b>0561-0591</b> |
| <b>0121-0151</b> | <b>0281-0311</b> | <b>0441-0471</b> | <b>0601-0631</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0671</b> | <b>0801-0831</b> | <b>0961-0991</b> | <b>1121-1151</b> |
| <b>0681-0711</b> | <b>0841-0871</b> | <b>1001-1031</b> | <b>1161-1191</b> |
| <b>0721-0751</b> | <b>0881-0911</b> | <b>1041-1071</b> | <b>1201-1231</b> |
| <b>0761-0791</b> | <b>0921-0951</b> | <b>1081-1111</b> | <b>1241-1271</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1311</b> | <b>1441-1471</b> | <b>1601-1631</b> | <b>1761-1791</b> |
| <b>1321-1351</b> | <b>1481-1511</b> | <b>1641-1671</b> | <b>1801-1831</b> |
| <b>1361-1391</b> | <b>1521-1551</b> | <b>1681-1711</b> | <b>1841-1871</b> |
| <b>1401-1431</b> | <b>1561-1591</b> | <b>1721-1751</b> | <b>1881-1911</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-1951</b> | <b>2081-2111</b> | <b>2241-2271</b> | <b>2401-2431</b> |
| <b>1961-1991</b> | <b>2121-2151</b> | <b>2281-2311</b> | <b>2441-2471</b> |
| <b>2001-2031</b> | <b>2161-2191</b> | <b>2321-2351</b> | <b>2481-2511</b> |
| <b>2041-2071</b> | <b>2201-2231</b> | <b>2361-2391</b> | <b>2521-2551</b> |



If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1  | Unit<br>2  | Unit<br>3  | Unit<br>4  | Unit<br>5  | Unit<br>6  |
|------------|------------|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| 001-002    | 161-162    | 321-322    | 481-482    | 641-642    | 801-802    |
| 021-022    | 181-182    | 341-342    | 501-502    | 661-662    | 821-822    |
| 041-042    | 201-202    | 361-362    | 521-522    | 681-682    | 841-842    |
| 061-062    | 221-222    | 381-382    | 541-542    | 701-702    | 861-862    |
| 081-082    | 241-242    | 401-402    | 561-562    | 721-722    | 881-882    |
| 101-102    | 261-262    | 421-422    | 581-582    | 741-742    | 901-902    |
| 121-122    | 281-282    | 441-442    | 601-602    | 761-762    | 921-922    |
| 141-142    | 301-302    | 461-462    | 621-622    | 781-782    | 941-942    |

If NPC numbers are expressed in four digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1  | Unit<br>2  | Unit<br>3  | Unit<br>4  |
|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| 0001-0002  | 0161-0162  | 0321-0322  | 0481-0482  |
| 0021-0022  | 0181-0182  | 0341-0342  | 0501-0502  |
| 0041-0042  | 0201-0202  | 0361-0362  | 0521-0522  |
| 0061-0062  | 0221-0222  | 0381-0382  | 0541-0542  |
| 0081-0082  | 0241-0242  | 0401-0402  | 0561-0562  |
| 0101-0102  | 0261-0262  | 0421-0422  | 0581-0582  |
| 0121-0122  | 0281-0282  | 0441-0442  | 0601-0602  |
| 0141-0142  | 0301-0302  | 0461-0462  | 0621-0622  |

| Unit<br>5  | Unit<br>6  | Unit<br>7  | Unit<br>8  |
|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| 0641-0642  | 0801-0802  | 0961-0962  | 1121-1122  |
| 0661-0662  | 0821-0822  | 0981-0982  | 1141-1142  |
| 0681-0682  | 0841-0842  | 1001-1002  | 1161-1161  |
| 0701-0702  | 0861-0862  | 1021-1022  | 1181-1182  |
| 0721-0722  | 0881-0882  | 1041-1042  | 1201-1202  |
| 0741-0742  | 0901-0902  | 1061-1062  | 1221-1222  |
| 0761-0762  | 0921-0922  | 1081-1082  | 1241-1242  |
| 0781-0782  | 0941-0942  | 1101-1102  | 1261-1262  |

| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1282</b> | <b>1441-1442</b> | <b>1601-1602</b> | <b>1761-1762</b> |
| <b>1301-1302</b> | <b>1461-1462</b> | <b>1621-1622</b> | <b>1781-1782</b> |
| <b>1321-1322</b> | <b>1481-1482</b> | <b>1641-1642</b> | <b>1801-1802</b> |
| <b>1341-1342</b> | <b>1501-1502</b> | <b>1661-1662</b> | <b>1821-1822</b> |
| <b>1361-1362</b> | <b>1521-1522</b> | <b>1681-1682</b> | <b>1841-1842</b> |
| <b>1381-1382</b> | <b>1541-1542</b> | <b>1701-1702</b> | <b>1861-1862</b> |
| <b>1401-1402</b> | <b>1561-1562</b> | <b>1721-1722</b> | <b>1881-1882</b> |
| <b>1421-1422</b> | <b>1581-1582</b> | <b>1741-1742</b> | <b>1901-1902</b> |
| <br>             |                  |                  |                  |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-1922</b> | <b>2081-2082</b> | <b>2241-2242</b> | <b>2401-2402</b> |
| <b>1941-1942</b> | <b>2101-2102</b> | <b>2261-2262</b> | <b>2421-2422</b> |
| <b>1961-1962</b> | <b>2121-2122</b> | <b>2281-2282</b> | <b>2441-2442</b> |
| <b>1981-1982</b> | <b>2141-2142</b> | <b>2301-2302</b> | <b>2461-2462</b> |
| <b>2001-2002</b> | <b>2161-2162</b> | <b>2321-2322</b> | <b>2481-2482</b> |
| <b>2021-2022</b> | <b>2181-2182</b> | <b>2341-2342</b> | <b>2501-2502</b> |
| <b>2041-2042</b> | <b>2201-2202</b> | <b>2361-2362</b> | <b>2521-2522</b> |
| <b>2061-2062</b> | <b>2221-2222</b> | <b>2381-2382</b> | <b>2541-2542</b> |

DACS II Non-CEF frames support two virtual NPCs using the three digit NPC numbering scheme. The valid values for Non-CEF frames are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**961-962**

DACS II CEF frames support six virtual NPCs using either a three digit or four digit NPC numbering scheme. If NPC numbers are expressed in three digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**961-966**

If NPC numbers are expressed in four digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**9961-9966**

**uvmnp** - Hierarchical NPC number, the first number of a range

**wxkqr** - Hierarchical NPC number, the last number of a range

**uv, wx** - Unit number

**m, k** - Module number

**np, qr** - NPC number within the module

The valid values are:

DE, DS, and DA type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

**Note:** Only ODD NPC numbers are valid in the tables listed below. The even numbered NPC is not available for any other NPC type.

SP type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-31</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

MB type NPC numbers listed by unit, module, and NPC Number

Unit Type DP (DSPU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-8</b> | <b>01-02</b> |

VI NPC numbers listed by unit, module, and NPC Number  
Unit Type VI (Virtual)

| Unit      | Module   | NPC                                   |
|-----------|----------|---------------------------------------|
| <b>99</b> | <b>1</b> | <b>01-02 (DACS II Non-CEF frames)</b> |
| <b>99</b> | <b>1</b> | <b>01-06 (DACS II CEF frames)</b>     |

**[s]jkl** - Nonhierarchical non-channelized NPC number in range [s]abc-[s]def

**edhfg** - Hierarchical non-channelized NPC number in range uvmnp-wkxqr

**mnxyz** - NPC-type identifier

*mnxyz Explanation*

|    |                                        |
|----|----------------------------------------|
| DA | Dual digroup ANSI NPC                  |
| DE | Dual digroup NPC                       |
| DS | SLC® carrier NPC                       |
| SP | Digital Signal Processing Circuit Pack |
| TA | DS3U ANSI NPC                          |
| TE | DS3U Noninterface unit NPC             |
| MB | Digital multipoint bridge NPC          |

DA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

**y** *Explanation*

- 0** ZCS - Zero code suppression
- 1\*** NZCS - No zero code suppression
- 2\*** B8ZS - Bipolar with 8 zero substitution
- 3** Not assigned
- 4** ZCS/DMI - Zero code suppression/DMI signaling
- 5** NZCS/DMI - No zero code suppression/DMI signaling
- 6** B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling
- 7-9** Not assigned

\* Only options 1 and 2 are applicable to DA-type clear-DS1 NPC.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

**z** - Channel numbering format

**z** *Explanation*

- 0** D4 channel bank channel numbering
- 1** D2 channel bank channel numbering
- 2** D1D channel bank channel numbering
- 3-8** Not assigned
- 9** Unchannelized 193-bit Clear DS1 Cross-connection

DA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a DA NPC with both a valid framing format (D4, ESF, T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the DA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II FTU, the NPC must be provisioned as NPC type **DE9y9**.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the DA NPC type. If ZBTSI is desired on an NPC in a DACS II FTU, the NPC must be provisioned as a DE NPC type with its **y** option selecting ZBTSI (**DEx3z**).

DE-type xyz fields

**x** - Multiframe format for the digroup

**x**      *Explanation*

**0**      Not assigned

**1**      D4

**2**      ESF - Voice

**3**      ESF - Data

**4**      DDST (T1DM - R bit connection via channel 24)

**5-7**    Not assigned

**8**      Ericsson Cellular format

**9**      No framing format, transparent (TRSP), clear-DS1

**y** - Line and signaling format

**y**      *Explanation*

**0**      ZCS - Zero code suppression

**1\***    NZCS - No zero code suppression

**2\***    B8ZS - Bipolar with 8 zero substitution

**3†**    ZBTSl - Zero-bit time-slot interchanger

**4**      ZCS/DMI - Zero code suppression/DMI signaling

**5**      NZCS/DMI - No zero code suppression/DMI signaling

**6**      B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling

**7-9**    Not assigned

\* Only options 1 and 2 are applicable to DE-type clear-DS1 NPC.

† Only valid with ESF (x = 2 or 3)

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format

**z**      *Explanation*

**0**      D4 channel bank channel numbering

**1**      D2 channel bank channel numbering

**2**      D1D channel bank channel numbering

**3-8**    Not assigned

**9**      No channel numbering format, clear-DS1

DS-type xyz fields

**x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>               |
|------------|----------------------------------|
| <b>0</b>   | Not assigned                     |
| <b>1</b>   | D4                               |
| <b>2</b>   | ESF - Voice                      |
| <b>3</b>   | Not assigned                     |
| <b>4</b>   | Not assigned                     |
| <b>5</b>   | Not assigned                     |
| <b>6</b>   | SLC® 96 carrier Fs               |
| <b>7</b>   | SLC 5 carrier ESF with data link |
| <b>8-9</b> | Not assigned                     |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                      |
|------------|-----------------------------------------|
| <b>0</b>   | Zero code suppression (ZCS)             |
| <b>1</b>   | No zero code suppression (NZCS)         |
| <b>2</b>   | Bipolar with 8 zero substitution (B8ZS) |
| <b>3-9</b> | Not assigned                            |

**z** - Counting sequence format

| <b>z</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | SLC 96 carrier Mode III D4 counting sequence  |
| <b>1</b>   | SLC 96 carrier Mode III D1D counting sequence |
| <b>2</b>   | SLC 96 carrier Mode I D1D counting sequence   |
| <b>3</b>   | SLC Series 5 carrier D4 counting sequence     |
| <b>4-9</b> | Not assigned                                  |

SP-type xyz fields

**x** - Fixed at 1

**y** - Fixed at 0

**z** - Fixed at 0



TE-type xyz fields

**x** - Multiframe format

**x** *Explanation*

- 0** Not assigned
- 1** D4
- 2** ESF - Voice
- 3** ESF - Data
- 4** DDST (T1DM - R bit connection via channel 24)
- 5-7** Not assigned
- 8** Ericsson Cellular format
- 9** No framing format, transparent (TRSP), clear-DS1

**y** - Line and signaling format

**y** *Explanation*

- 0** ZCS - Zero code suppression
- 1\*** NZCS - No zero code suppression
- 2** Not assigned
- 3** Not assigned
- 4** ZCS/DMI - Zero code suppression/DMI signaling
- 5** NZCS/DMI - No zero code suppression/DMI signaling
- 6-9** Not assigned

\* Only option 1 is applicable to TE-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format

**z** *Explanation*

- 0** D4 channel bank channel numbering
- 1** D2 channel bank channel numbering
- 2** D1D channel bank channel numbering
- 3-8** Not assigned
- 9** No channel numbering format, clear-DS1

# TA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                |
|------------|---------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                       |
| <b>1*</b>  | NZCS - No zero code suppression                   |
| <b>2</b>   | Not assigned                                      |
| <b>3</b>   | Not assigned                                      |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling     |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling |
| <b>6-9</b> | Not assigned                                      |

\* Only option 1 is applicable to TA-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering                |
| <b>1</b>   | D2 channel bank channel numbering                |
| <b>2</b>   | D1D channel bank channel numbering               |
| <b>3-8</b> | Not assigned                                     |
| <b>9</b>   | Unchannelized 193-bit Clear DS1 Cross-connection |

TA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a TA NPC with both a valid framing format (D4,ESF,T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the TA NPC type. If an unframed Clear DS1

cross-connection is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as NPC type TE919.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the TA NPC type. If ZBTSI is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as a TE NPC type with its **y** option selecting ZBTSI (**TE<sub>x</sub>3<sub>z</sub>**).

MB-type xyz fields

**x** - Fixed at 1

**y** - Fixed at 0

**z** - Fixed at 0

**DPLX** - Duplex

Duplex equipped

#### **ccc-ddd**

- Channel number range

The channel number range varies with the NPC type. It is not printed for non-channelized NPCs

**ccc-ddd**      *Explanation*

**001-024**      Channel range for type DExyz and DAxyz NPC

**001-024**      Channel range for type TExyz and TAxyz NPC

For DSxyz-type NPC (SLC® carrier interface digroup)

*ccc-ddd*      *Digroup & Mode*

001-047      Odd only (SLC 96® Carrier, Mode 3, DGA)

049-095      Odd only (SLC 96 Carrier, Mode 3, DGC)

001-024      Odd and Even (SLC 96 Carrier, Mode 1, DGA)

025-048      Odd and Even (SLC 96 Carrier, Mode 1, DGB)

049-072      Odd and Even (SLC 96 Carrier, Mode 1, DGC)

073-096      Odd and Even (SLC 96 Carrier, Mode 1, DGD)

001-024      Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA)

025-048      Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB)

049-072      Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC)

073-096      Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD)

Conference numbers

001-085      (MB NPC)

**SWMR** - Switch manually requested

Protection switch manually requested for SLC carrier NPC

**SWAR** - Switch automatically requested

Protection switch automatically requested for SLC carrier NPC

**ACTPL** - Active protection line

Queried SLC carrier NPC is a protection line which is active

**NACPL** - Nonactive protection line

Queried SLC carrier NPC is a protection line which is not active

**[t]kkk** - Nonhierarchical corresponding SLC carrier Digroup A (DGA) NPC number  
(with the same valid values as [s]abc)

**uvkkk** - Hierarchical SLC carrier Digroup A (DGA) NPC number

**FDL** - Facility data link

Only for DE-type NPCs

**[u]lmnddd**

- Nonhierarchical termination number to which the FDL is mapped

**jklmnddd**

- Hierarchical termination number to which the FDL is mapped

**[u]lmn** - The 3- or 4-digit nonhierarchical NPC number (with the same valid values as [s]abc)

**t** *Type of connection*

**\*** One-way

**" "** Two-way (a blank)

**B** Broadcast (BCON)

**R** Roll

**T** Test Access\*

**S** Signaling conversion is being applied

\* T will not be displayed for mapped terminations.

**NPCTP** - Network processing circuit for test port

DExyz or TExyz type NPC for DS0 Test Ports

**ROLL** - Roll  
Bridged facility in Roll procedure

**FAD** - Facility access digroup  
Non-channelized test NPC

**Note:** In a segment containing information for a FAD type NPC, the NPCs under test will be listed without the type of the connection they are in.

**tmode** - Test mode of non-channelized test NPC

**tmode** *Test mode*

|               |                   |
|---------------|-------------------|
| <b>HUB</b>    | Hub               |
| <b>LOOPE</b>  | Loop E            |
| <b>LOOPF</b>  | Loop F            |
| <b>LPBKT</b>  | Terminal Loopback |
| <b>MONE</b>   | Monitor E(FROM)   |
| <b>MONEF</b>  | Monitor E and F   |
| <b>MONF</b>   | Monitor F(TO)     |
| <b>SPLTA</b>  | Split A           |
| <b>SPLTAB</b> | Split A and B     |
| <b>SPLTB</b>  | Split B           |
| <b>SPLTE</b>  | Split E           |
| <b>SPLTEF</b> | Split E and F     |
| <b>SPLTF</b>  | Split F           |

**[v]ghi****jjj**

- Nonhierarchical number of NPC and channel or conference port number/circuit ID. For a non-channelized cross-connect, the channel number **jjj** will not be shown.

**[v]ghi** - Nonhierarchical NPC with the same valid values as **[s]abc**.

For an FAD, the tested NPC is listed first if only one of the two mapped NPCs is under test.

**jjj** - Channel number (If **[v]ghi** is MB type, the range for **jjj** is 001 to 085.)

Some examples of **[v]ghijjj** are listed below:

**[v]ghijjj** Explanation

**[0]000000** Unmapped channel

**[v]ghi000** Mapped channel connected to an FDL of NPC **[v]ghi**

**[s]SECH-** Mapped channel connected to a Subrate (SR)  
or MJ-type NPC.

**[v]ghijj** Mapped channel NOT connected to an FDL, SR or MJ channel

**r** - Termination status

**r** *Termination status*

**T** Terminated

**blank** Not Terminated

**ghikljjj**

- Hierarchical number of NPC and channel or conference port  
number/circuit ID. For a non-channelized cross-connection,  
the channel number jjj will not be shown.

**00000000**

- Unmapped channel

**ghikl000**

- Mapped channel connected to a FDL of NPC ghikl

**ghikljjj**

- Mapped channel NOT connected to an FDL, SR and MJ channel

**jjj** - Channel number

If ghikl is an MB type, the range for jjj is 001 to 085.

**[s]cbn** - The 3- or 4-digit nonhierarchical CB type NPC number.

**[s]mbn** - The 3- or 4-digit nonhierarchical MB type NPC number

**mbnop** - Hierarchical MB type NPC number

**mb** - Unit number

**n** - Module number

**op** - NPC number

**lll** - Number of legs for the multipoint termination (003 through 256)

**[s]vnp** - The 3- or 4-digit nonhierarchical virtual NPC number

**vnprs** - Hierarchical virtual NPC number

**vn** - Unit number

**p** - Module number

**rs** - NPC number

- xx** - Number of conferences reported in the segment (01 through 48)
- e** - Number of lines in the segment
- t nnn** - Virtual conference type and number
- t** - *Virtual conference type*
- | <b>t</b>   | Explanation       |
|------------|-------------------|
| <b>*</b>   | One-way           |
| <b>" "</b> | Two-way (a blank) |
- nnn** - Virtual conference number (001 through 500)
- [w]mno** - The 3- or 4-digit nonhierarchical NPC number that caused the denial ([s]abc through [t]def)
- edmno** - Hierarchical NPC number that caused the denial (uvmnp through wxkqr)
- cc** - Hexadecimal condition code
- | <b>cc</b> | <i>Explanation</i>                 |
|-----------|------------------------------------|
| <b>0B</b> | Invalid CEPT NPC                   |
| <b>7F</b> | NPC is not added                   |
| <b>91</b> | SR NPC was specified - not allowed |

## **UTL, QRY, CNFGR**

---

### **UTILITY QUERY CONFIGURE**

#### **Explanation Of Command**

---

This command requests information about the configuration of a DACS II frame.

#### **Command**

---

[I.51091]

UTL:FRM xy,SEQ ww:QRY,CNFGR!

#### **Completion Message**

---

[O.51091]

M hh:mm:ss xy,ww n[vv] UTL QRY CNFGR 4 LN MSG:  
ID xy UID <uid> SS <ssn>  
BAY aa TYPE fff-fff UNITS bb CCN c HG d  
UNIT a a a a a a a a a a a a a a \  
NPCAD[ E][ X] H COMPL

#### **Denial Message**

---

Not applicable.

#### **Autonomous Message**

---

Not applicable.



---

### Explanation Of Parameters

---

**ID** - Identifier (frame)

**xy** - Frame identifier (00 through ZZ)

**UID** - Unique identifier

**uid** - Unique (frame) identifier (1 to 20 alphanumeric characters)

**SS** - Software serial number

**ssn** - Software serial number value (1 to 10 alphanumeric characters)

The software serial number may be assigned by the user to identify a particular software package. This would eliminate problems in an office where the user has multiple frames and more than one software package is in use.

**BAY** - Bay

**aa** - Total number of bays, in decimal (01 through 07)

**TYPE** - Type

**fff-fff**

- Bay types (-, 1, or 2)

Variable fff-fff gives the bay type assigned to each bay in the frame. Bays are numbered from 1 through 7. When viewed from the front of the frame the bays are positioned in the frame in the same order as the bay numbers shown below. Consult this table to determine the bay associated with the position of a given f.

|             |               |
|-------------|---------------|
| Bay numbers | 6 4 1 2 3 5 7 |
| Assignment  | f f f - f f f |

| <i>f</i> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|   |                                          |
|---|------------------------------------------|
| - | Not configured or the Switch Bay (Bay 2) |
|---|------------------------------------------|

|   |                        |
|---|------------------------|
| 1 | Original Interface Bay |
|---|------------------------|

|   |                        |
|---|------------------------|
| 2 | Flexible Interface Bay |
|---|------------------------|

**UNITS** - Units

**bb** - Number of equipped units, in decimal (01 through 16)

**CCN** - Cross-connect network

**c** - Cross-connect network type

| <i>c</i> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|   |              |
|---|--------------|
| 1 | Multibay CCN |
|---|--------------|

|   |                |
|---|----------------|
| 2 | Single-bay CCN |
|---|----------------|

|   |      |
|---|------|
| E | ECCN |
|---|------|

**HG** - Height

**d** - Height of bay

| <i>d</i> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|   |               |
|---|---------------|
| 0 | 7'0" (2133mm) |
|---|---------------|

|   |                |
|---|----------------|
| 1 | 11'6" (3505mm) |
|---|----------------|

|   |                 |
|---|-----------------|
| 2 | 7'2.6" (2200mm) |
|---|-----------------|

**UNIT** - Unit

**a** - Unit number

| <i>a</i> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|   |                |
|---|----------------|
| - | Not configured |
|---|----------------|

|   |     |
|---|-----|
| 1 | FTU |
|---|-----|

|   |      |
|---|------|
| 2 | DSPU |
|---|------|

|   |      |
|---|------|
| 3 | DS3U |
|---|------|

|   |      |
|---|------|
| 4 | IFTU |
|---|------|

**NPCAD** - Network processing circuit addressing

**E** - The 3-digit nonhierarchical (Extended) addressing scheme

**X** - The 4-digit nonhierarchical (Extended) addressing scheme

**H** - Hierarchical addressing scheme

## **UTL, QRY, CS, NPC**

---

### **UTILITY QUERY CIRCUIT STATUS, NPC**

#### **Explanation Of Command**

---

This message requests the Circuit Status (CS) of an ANSI type Network Processing Circuit (NPC). The response to this query displays the ANSI NPC's Near-end and Far-end Alarm/Status bytes. ANSI capability is supported by DA-type NPCs in a DACS II Facility Terminating Unit or TA-type NPCs in a DACS II DS3 Unit.

**Note:** This message will be denied if the NPC is not equipped as an DA/TA type NPC.

#### **Command**

---

##### **Nonhierarchical**

---

[I.53121]

UTL:FRM xy,SEQ ww:QRY,CS,NPC [s]abc!

##### **Hierarchical**

---

[I.53121]

UTL:FRM xy,SEQ ww:QRY,CS,NPC uvmnp!

#### **Completion Message**

---

##### **Nonhierarchical**

---

[O.53121]

M hh:mm:ss xy,ww n[vv] UTL QRY CS NPC [s]abc 2 LN MSG:  
furyatlo fumcablo COMPL

### **Hierarchical**

---

[O.53121]

M hh:mm:ss xy,ww n[vv] UTL QRY CS NPC uvmnp 2 LN MSG:  
furyatlo fumcablo COMPL

### **Denial Message**

---

### **Nonhierarchical**

---

[O.53121.01]

M hh:mm:ss xy,ww n[vv] UTL QRY CS NPC [s]abc COND cc DNY

### **Hierarchical**

---

[O.53121.01]

M hh:mm:ss xy,ww n[vv] UTL QRY CS NPC uvmnp COND cc DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**CS** - Circuit status

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                              |                              |                              |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |
| <b>16A-16H</b>               | <b>32A-32H</b>               | <b>48A-48H</b>               | <b>64A-64H</b>               | <b>80A-80H</b>               | <b>96A-96H</b>               |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

uv - Unit number  
m - Module number  
np - NPC number within Unit

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

Unit    Module    NPC  
**01-16   1-4    01-40**

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

Unit        Module        NPC  
**01-16       1-6        01-28**

**furyatlo**

- Near-end circuit status. The bits in the near-end byte identify the following alarm/status conditions:

| Field | Explanation                                           |
|-------|-------------------------------------------------------|
| f     | f = 1, if u or r or y or a or t or l or o = 1         |
| u     | u = 1, if an unavailable signal status exists         |
| r     | r = 1, if a Red-CGA exists                            |
| y     | y = 1, if a Yellow-CGA exists                         |
| a     | a = 1, if an AIS-CGA exists                           |
| t     | t = 0, (unused)                                       |
| l     | l = 1, if a payload loopback or test signal is active |
| o     | o = 0, (unused)                                       |

**fumcablo**

- Far-end circuit status. The bits in the far-end byte identify the following alarm/status conditions:

| Field | Explanation                                                     |
|-------|-----------------------------------------------------------------|
| f     | f = 1, if u or m or c or a or b or l or o = 1                   |
| u     | u = 1, if a far-end unavailable signal status exists            |
| m     | m = 1, if no ANSI PRMs or RAI has been received for 4.5 seconds |
| c     | c = 1, if loopback retention code is being received             |
| a     | a = 1, if a far-end AIS-CGA or Red-CGA exists                   |
| b     | b = 1, if loopback retention code is being transmitted          |
| l     | l = 1, if a far-end payload loopback is active                  |
| o     | o = 0, (unused)                                                 |

**cc** - Hexadecimal condition code

| <b>cc</b> | <i>Explanation</i>               |
|-----------|----------------------------------|
| <b>02</b> | Subject entity is not equipped   |
| <b>04</b> | Subject entity is out of service |
| <b>10</b> | Unit is not equipped             |
| <b>11</b> | UC is out of service             |
| <b>12</b> | UC is in service but failed      |
| <b>13</b> | FTMI is not equipped             |
| <b>14</b> | FTMI is out of service           |
| <b>24</b> | Unit type error                  |
| <b>0B</b> | Invalid CEPT NPC                 |
| <b>44</b> | NPC not IU/TI type               |
| <b>46</b> | NPC Failed or Out of Service     |
| <b>BF</b> | MIU is not equipped              |
| <b>AF</b> | MIU is failed                    |
| <b>CF</b> | MIU is out of service            |
| <b>33</b> | NPC not DA or TA type.           |

## **UTL,QRY,DATE**

### **QUERY DATE**

#### **Explanation Of Command**

This message requests a printout of the current date (month, day, year) and the time interval at which DACS II prints the date.

#### **Command**

[I.51031]

UTL:FRM xy,SEQ ww:QRY,DATE!

#### **Completion Message**

[O.51031]

M hh:mm:ss xy,ww n[vv] UTL QRY DATE aa/bb/cc FORMAT ggg INT ii \  
COMPL

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.51031]

I hh:mm:ss xy,ww UTL QRY DATE aa/bb/cc FORMAT ggg INT ii COMPL



## **Explanation Of Parameters**

---

**INT** - Interval

**ii** - Interval at which DACS II will print the date.

ii      Meaning

01      Every hour on the hour.

02      Every even hour on the hour.

04      Every fourth hour on the hour: 04, 08, 12, 16, 20, 24

06      Every sixth hour on the hour: 06, 12, 18, 24

08      Every eighth hour on the hour: 08, 16, 24

12      Twice daily on the hour: 12, 24

24      Once daily at midnight (default).

**DATE** - Date

**aa** - Month or day

**bb** - Day or Month

**cc** - Year (2 or 4 digits)

The DATE will be displayed in the International format

**FORMAT** - Format

**ggg** - Date format

*ggg*      *Date format*

MDY      Month/Day/Year (USA format)

DMY      Day/Month/Year (International format)

## **UTL,QRY,DMAP**

---

### **QUERY FULL CROSS-CONNECT MAP**

#### **Explanation Of Command**

---

This command requests a printout of the DACS II map on ALL cross-connected channels.

The output lists all FROM and TO side identifiers for all equipped network processing circuits (NPCs). Unequipped and fully unassigned Network Processing Circuits will not be listed. The outputs are similar to the **UTL : : QRY, CMAP** output. This command may produce a large volume of output. To terminate the output enter the **ABT** command. The outputs are similar to the **RTRV-CRS-T1 : : : MAP** output. This command may produce a large volume of output. To terminate the output enter the **ABT-CMD** command.

#### **Command**

---

[I.52031]

**UTL : [FRM xy, SEQ ww] : QRY, DMAP !**

## Completion Message

### Nonhierarchical

**Note:** The following message segment will be output for each DE, DS, DA, TE, and TA NPC.

If the 3-digit nonhierarchical NPC number is used, the following message segment will be output for each 24-channel NPC. Each segment shall contain eight terminations per line as shown below, where the **ghi** is the nonhierarchical NPC number.

If the header line has 80 or less characters:

[O.52031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP abc mnxyz ccc-ddd[ {ACTPL|NACPL}]\
[ kkk {SWMR|SWAR}][ FDL tlmndddr][ {NPCTP|NPCTG|ROLL}] 4 LN MSG:
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr EOM
```

If the header line is longer than 80 characters:

[O.52031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP abc mnxyz ccc-ddd[ {ACTPL|NACPL}]\
[ kkk {SWMR|SWAR}] 5 LN MSG:
[FDL tlmndddr][ {NPCTP|NPCTG|ROLL}]
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr EOM
```

**Note:** If the 3-digit nonhierarchical NPC number is used, the following message segment will be output for each Clear-DS1 NPC.

[O.52031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP jkl mnxyz[ {FAD <tmode>|ROLL}] \
[t]ghi[r][ [v]ghi] EOM
```

If the 4-digit nonhierarchical NPC number is used, the following message segment will be output for each 24-channel NPC. Each segment shall contain six terminations per line as shown below, where the **vghi** is the nonhierarchical NPC number.

If the header line has 80 or less characters:

[O.52031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP sabc mnxyz ccc-ddd[ {ACTPL|NACPL}]\
[ tkkk {SWMR|SWAR}][ FDL tulmndddr][ {NPCTP|NPCTG|ROLL}] 5 LN MSG:
tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr
tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr
tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr
tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr EOM
```

If the header line is longer than 80 characters:

[O.52031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP sabc mnxyz ccc-ddd[ {ACTPL|NACPL}]\
[ tkkk {SWMR|SWAR}] 6 LN MSG:
[FDL tuImndddr][ {NPCTP|NPCTG|ROLL}]
tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr
tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr
tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr
tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr tvghijjrr EOM
```

If the 4-digit nonhierarchical NPC number is used, the following message segment will be output for each Clear-DS1 NPC.

[O.52031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP sjkl mnxyz[ {FAD <tmode>|ROLL}] \
[t]vghi[r][ vghi] EOM
```

If the 3-digit nonhierarchical NPC number is used, the following two message segments will be output for each SP100 NPC. Each segment shall contain eight terminations per line as shown below, where the **ghi** is the nonhierarchical NPC number.

[O.52037]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP jkl SP100 001-032 5 LN MSG:
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP jkl SP100 033-064 5 LN MSG:
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj EOM
```

If the 4-digit nonhierarchical NPC number is used, the following two message segments will be output for each SP100 NPC. Each segment shall contain eight terminations per line as shown below, where the **vghi** is the nonhierarchical NPC number.

[O.52037]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP sjkl SP100 001-032 5 LN MSG:
vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj
vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj
vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj
vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP sjkl SP100 033-064 5 LN MSG:
vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj
vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj
vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj
vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj EOM
```

**Note:** The following two message segments will be output for each MB NPC.

[O.52033]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP [s]mbn MB100 001-064 DPLX 5 LN MSG:
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP [s]mbn MB100 065-085 DPLX 3 LN MSG:
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll EOM
```

**Note:** The following message segment will be output as many times as needed for each VI NPC.

[O.52034]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP [s]vnp TYPE VI100 xx e LN MSG:
[tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn]
[tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn]
[tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn]
tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn EOM
```

**Note:** The following completion message segment will be output after all other NPC segments have been output.

[O.52031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP COMPL
```

## Hierarchical

**Note:** The following message segment will be output for each DE, DS, DA, TE, and TA NPC.

If the header line has 80 or less characters:

[O.52031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP uvmnp mnxyz ccc-ddd[ {ACTPL|NACPL}]\
[ uvkkk {SWMR|SWAR}][ FDL tjklmndddr][ {NPCTP|NPCTG|ROLL}] 7 LN MSG:
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr EOM
```

If the header line is longer than 80 characters:

[O.52031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP uvmnp mnxyz ccc-ddd[ {ACTPL|NACPL}]\
[ uvkkk {SWMR|SWAR}] 8 LN MSG:
[FDL tjklmndddr][ {NPCTP|NPCTG|ROLL}]
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr EOM
```

**Note:** The following message segment will be output for each Clear-DS1 NPC.

[O.52031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP edhfg mnxyz[ {FAD <tmode>|ROLL}] \
[t]ghikl[r][ ghikl] EOM
```

**Note:** The following two message segments will be output for each SP100 NPC. Each segment shall contain eight terminations per line as shown below, where the **ghikl** is the hierarchical NPC number.

[O.52037]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP edhfg SP100 001-032 5 LN MSG:
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP edhfg SP100 033-064 5 LN MSG:
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj EOM
```

**Note:** The following two message segments will be output for each MB NPC.

[O.52033]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP mbnop MB100 001-064 DPLX 5 LN MSG:
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP mbnop MB100 065-085 DPLX 3 LN MSG:
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll lll EOM
```

**Note:** The following message segment will be output as many times as needed for each VI NPC.

[O.52034]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP vnprs TYPE VI100 xx e LN MSG:
[tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn]
[tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn]
[tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn]
tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn tnnn EOM
```

**Note:** The following completion message segment will be output after all other NPC segments have been output.

[O.52031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP COMPL
```

## Denial Message

Not applicable.

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**DMAP** - Digroup map

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number  
For FT NPCs excluding non-channelized NPCs.

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |



| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

**Note:** Only ODD NPC numbers are valid in the tables listed below. The even numbered NPC is not available for any other NPC type.

If NPC numbers are expressed in three digits, the valid values are:

SP type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-031</b> | <b>NPC</b><br><b>161-191</b> | <b>NPC</b><br><b>321-351</b> | <b>NPC</b><br><b>481-511</b> | <b>NPC</b><br><b>641-671</b> | <b>NPC</b><br><b>801-831</b> |
| <b>041-071</b>               | <b>201-231</b>               | <b>361-391</b>               | <b>521-551</b>               | <b>681-711</b>               | <b>841-871</b>               |
| <b>081-111</b>               | <b>241-271</b>               | <b>401-431</b>               | <b>561-591</b>               | <b>721-751</b>               | <b>881-911</b>               |
| <b>121-151</b>               | <b>281-311</b>               | <b>441-471</b>               | <b>601-631</b>               | <b>761-791</b>               | <b>921-951</b>               |

If NPC numbers are expressed in four digits, the valid values are:

SP type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0031</b> | <b>NPC</b><br><b>0161-0191</b> | <b>NPC</b><br><b>0321-0351</b> | <b>NPC</b><br><b>0481-0511</b> |
| <b>0041-0071</b>               | <b>0201-0231</b>               | <b>0361-0391</b>               | <b>0521-0551</b>               |
| <b>0081-0111</b>               | <b>0241-0271</b>               | <b>0401-0431</b>               | <b>0561-0591</b>               |
| <b>0121-0151</b>               | <b>0281-0311</b>               | <b>0441-0471</b>               | <b>0601-0631</b>               |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0671</b> | <b>NPC</b><br><b>0801-0831</b> | <b>NPC</b><br><b>0961-0991</b> | <b>NPC</b><br><b>1121-1151</b> |
| <b>0681-0711</b>               | <b>0841-0871</b>               | <b>1001-1031</b>               | <b>1161-1191</b>               |
| <b>0721-0751</b>               | <b>0881-0911</b>               | <b>1041-1071</b>               | <b>1201-1231</b>               |
| <b>0761-0791</b>               | <b>0921-0951</b>               | <b>1081-1111</b>               | <b>1241-1271</b>               |

| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1311</b> | <b>1441-1471</b> | <b>1601-1631</b> | <b>1761-1791</b> |
| <b>1321-1351</b> | <b>1481-1511</b> | <b>1641-1671</b> | <b>1801-1831</b> |
| <b>1361-1391</b> | <b>1521-1551</b> | <b>1681-1711</b> | <b>1841-1871</b> |
| <b>1401-1431</b> | <b>1561-1591</b> | <b>1721-1751</b> | <b>1881-1911</b> |
| <br>             |                  |                  |                  |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-1951</b> | <b>2081-2111</b> | <b>2241-2271</b> | <b>2401-2431</b> |
| <b>1961-1991</b> | <b>2121-2151</b> | <b>2281-2311</b> | <b>2441-2471</b> |
| <b>2001-2031</b> | <b>2161-2191</b> | <b>2321-2351</b> | <b>2481-2511</b> |
| <b>2041-2071</b> | <b>2201-2231</b> | <b>2361-2391</b> | <b>2521-2551</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| <br>             |                  |                  |                  |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The valid values are:

DE, DS, and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

**Note:** Only ODD NPC numbers are valid in the tables listed below. The even numbered NPC is not available for any other NPC type.

SP type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-31</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**mnxyz** - NPC-type identifier

*mn*      *Explanation*

DA      Dual digroup ANSI NPC  
DE      Dual digroup NPC  
  
DS      SLC® carrier NPC

|    |                                        |
|----|----------------------------------------|
| SP | Digital Signal Processing Circuit Pack |
| MB | Digital multipoint bridge NPC          |
| TA | DS3U ANSI NPC                          |
| TE | DS3U Noninterface unit NPC             |

#### DE-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | Not assigned                                     |
| <b>1</b>   | D4                                               |
| <b>2</b>   | ESF - Voice                                      |
| <b>3</b>   | ESF - Data                                       |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24)    |
| <b>5-7</b> | Not assigned                                     |
| <b>8</b>   | Ericsson Cellular format                         |
| <b>9</b>   | No framing format, transparent (TRSP), clear-DS1 |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                        |
|------------|-----------------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                               |
| <b>1*</b>  | NZCS - No zero code suppression                           |
| <b>2*</b>  | B8ZS - Bipolar with 8 zero substitution                   |
| <b>3†</b>  | ZBTSI - Zero-bit time-slot interchanger                   |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling             |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling         |
| <b>6</b>   | B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling |
| <b>7-9</b> | Not assigned                                              |

\* Only options 1 and 2 are applicable to DE-type clear-DS1 NPC.

† Only valid with ESF (x = 2 or 3)

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                     |
|------------|----------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering      |
| <b>1</b>   | D2 channel bank channel numbering      |
| <b>2</b>   | D1D channel bank channel numbering     |
| <b>3-8</b> | Not assigned                           |
| <b>9</b>   | No channel numbering format, clear-DS1 |

DS-type xyz fields

**x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>               |
|------------|----------------------------------|
| <b>0</b>   | Not assigned                     |
| <b>1</b>   | D4                               |
| <b>2</b>   | ESF - Voice                      |
| <b>3</b>   | Not assigned                     |
| <b>4</b>   | Not assigned                     |
| <b>5</b>   | Not assigned                     |
| <b>6</b>   | SLC® 96 carrier Fs               |
| <b>7</b>   | SLC 5 carrier ESF with data link |
| <b>8-9</b> | Not assigned                     |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                      |
|------------|-----------------------------------------|
| <b>0</b>   | Zero code suppression (ZCS)             |
| <b>1</b>   | No zero code suppression (NZCS)         |
| <b>2</b>   | Bipolar with 8 zero substitution (B8ZS) |
| <b>3-9</b> | Not assigned                            |

**z** - Counting sequence format

| <b>z</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | SLC 96 carrier Mode III D4 counting sequence  |
| <b>1</b>   | SLC 96 carrier Mode III D1D counting sequence |
| <b>2</b>   | SLC 96 carrier Mode I D1D counting sequence   |
| <b>3</b>   | SLC Series 5 carrier D4 counting sequence     |
| <b>4-9</b> | Not assigned                                  |

DA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                        |
|------------|-----------------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                               |
| <b>1*</b>  | NZCS - No zero code suppression                           |
| <b>2*</b>  | B8ZS - Bipolar with 8 zero substitution                   |
| <b>3</b>   | Not assigned                                              |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling             |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling         |
| <b>6</b>   | B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling |
| <b>7-9</b> | Not assigned                                              |

\* Only options 1 and 2 are applicable to DA-type clear-DS1 NPC.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering                |
| <b>1</b>   | D2 channel bank channel numbering                |
| <b>2</b>   | D1D channel bank channel numbering               |
| <b>3-8</b> | Not assigned                                     |
| <b>9</b>   | Unchannelized 193-bit Clear DS1 Cross-connection |

DA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a DA NPC with both a valid framing format (D4, ESF, T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the DA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II FTU, the NPC must be provisioned as NPC type **DE9y9**.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the DA NPC type. If ZBTSI is desired on an NPC in a DACS II FTU, the NPC must be provisioned as a DE NPC type with its **y** option selecting ZBTSI (**DEx3z**).

#### SP-type xyz fields

- x** - Fixed at 1
- y** - Fixed at 0
- z** - Fixed at 0

#### TE-type xyz fields

- x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | Not assigned                                     |
| <b>1</b>   | D4                                               |
| <b>2</b>   | ESF - Voice                                      |
| <b>3</b>   | ESF - Data                                       |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24)    |
| <b>5-7</b> | Not assigned                                     |
| <b>8</b>   | Ericsson Cellular format                         |
| <b>9</b>   | No framing format, transparent (TRSP), clear-DS1 |

**y** - Line and signaling format

**y**      *Explanation*

- 0**      ZCS - Zero code suppression
- 1\***     NZCS - No zero code suppression
- 2**      Not assigned
- 3**      Not assigned
- 4**      ZCS/DMI - Zero code suppression/DMI signaling
- 5**      NZCS/DMI - No zero code suppression/DMI signaling
- 6-9**   Not assigned

\* Only option 1 is applicable to TE-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format

**z**      *Explanation*

- 0**      D4 channel bank channel numbering
- 1**      D2 channel bank channel numbering
- 2**      D1D channel bank channel numbering
- 3-8**   Not assigned
- 9**      No channel numbering format, clear-DS1

TA-type xyz fields

**x** - Multiframe format for the digroup

**x**      *Explanation*

- 0**      Not assigned
- 1**      D4
- 2**      ESF - Voice
- 3**      ESF - Data
- 4**      DDST (T1DM - R bit connection via channel 24)
- 5-7**   Not assigned
- 8**      Ericsson Cellular format
- 9**      Not assigned



**y** - Line and signaling format

**y**      *Explanation*

- 0**      ZCS - Zero code suppression
- 1\***     NZCS - No zero code suppression
- 2**      Not assigned
- 3**      Not assigned
- 4**      ZCS/DMI - Zero code suppression/DMI signaling
- 5**      NZCS/DMI - No zero code suppression/DMI signaling
- 6-9**   Not assigned

\* Only option 1 is applicable to TA-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

**z** - Channel numbering format

**z**      *Explanation*

- 0**      D4 channel bank channel numbering
- 1**      D2 channel bank channel numbering
- 2**      D1D channel bank channel numbering
- 3-8**   Not assigned
- 9**      Unchannelized 193-bit Clear DS1 Cross-connection

TA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a TA NPC with both a valid framing format (D4,ESF,T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the TA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as NPC type TE919.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the TA NPC type. If ZBTSI is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as a TE NPC type with its **y** option selecting ZBTSI (**TEx3z**).

MB-type xyz fields

- x**      - Fixed at 1
- y**      - Fixed at 0
- z**      - Fixed at 0

**ccc** - Starting channel or conference number  
**ddd** - Ending channel or conference number

Channel numbers  
001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

001-064          Signaling conversion time slot numbers

Conference numbers  
001-085          (MB NPC)

**FDL** - Facility data link

Only for DE type NPCs

The FDL is mapped to the following termination:

**t[u]l m d d d r**

- Nonhierarchical termination number and state

**t** - Type of connection

**[u]l m n** - The 3- or 4-digit nonhierarchical NPC number

**d d d** - Channel number

**r** - Termination state

**t j k l m d d d**

- Hierarchical termination number

**t** - Type of connection

**j k** - Unit number

**l** - Module number

**m n** - NPC number within the module

**d d d** - Channel number

**r** - Termination state

**r** *Explanation*

**T** Terminated

**b l a n k** Not Terminated

**NPCTP** - NPC for DS0 Test Ports

**NPCTG** - NPC for Nx64 kbit/s Test-access Groups

**ROLL** - bridged facility in Roll procedure

**t[v]ghi[j]r**

- Nonhierarchical termination number and state

**t** - Type of connection

**[v]ghi** - Nonhierarchical NPC number

**[j]** - Channel/conference number

**r** - Termination state

**t** *Explanation*

**\*** One-way

**blank** Two-way

**B** Broadcast

**R** Bridged (from Roll)

**T** Test access

**S** Signaling conversion is being applied

**[v]ghi[j]**

- Nonhierarchical termination number

Number of NPC and channel or conference port number/circuit ID.

[0]000000 Unmapped termination number

[v]ghi000 Mapped termination number connected to an FDL

[-]-SECH- Mapped termination connected to a Subrate (SR)  
or Multijunction (MJ) type NPC.

**r** *Explanation*

**T** Terminated

**blank** Not Terminated

# **tghikljrr**

- Hierarchical termination number and state

**t** - Type of connection

**gh** - Unit number

**i** - Module number

**kl** - NPC number

**jjj** - Channel/conference number

**r** - Termination state

**ghikljrr** Hierarchical termination number

**00000000** Unmapped termination number

**ghikl000** Mapped termination number connected to an FDL

**---SECH---** Mapped termination connected to a Subrate (SR)  
or Multijunction (MJ) type NPC.

**[s]mbn** - The 3- or 4-digit nonhierarchical MB type NPC number

If NPC numbers are expressed in three digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-002</b> | <b>161-162</b> | <b>321-322</b> | <b>481-482</b> | <b>641-642</b> | <b>801-802</b> |
| <b>021-022</b> | <b>181-182</b> | <b>341-342</b> | <b>501-502</b> | <b>661-662</b> | <b>821-822</b> |
| <b>041-042</b> | <b>201-202</b> | <b>361-362</b> | <b>521-522</b> | <b>681-682</b> | <b>841-842</b> |
| <b>061-062</b> | <b>221-222</b> | <b>381-382</b> | <b>541-542</b> | <b>701-702</b> | <b>861-862</b> |
| <b>081-082</b> | <b>241-242</b> | <b>401-402</b> | <b>561-562</b> | <b>721-722</b> | <b>881-882</b> |
| <b>101-102</b> | <b>261-262</b> | <b>421-422</b> | <b>581-582</b> | <b>741-742</b> | <b>901-902</b> |
| <b>121-122</b> | <b>281-282</b> | <b>441-442</b> | <b>601-602</b> | <b>761-762</b> | <b>921-922</b> |
| <b>141-142</b> | <b>301-302</b> | <b>461-462</b> | <b>621-622</b> | <b>781-782</b> | <b>941-942</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1  | Unit<br>2  | Unit<br>3  | Unit<br>4  |
|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| 0001-0002  | 0161-0162  | 0321-0322  | 0481-0482  |
| 0021-0022  | 0181-0182  | 0341-0342  | 0501-0502  |
| 0041-0042  | 0201-0202  | 0361-0362  | 0521-0522  |
| 0061-0062  | 0221-0222  | 0381-0382  | 0541-0542  |
| 0081-0082  | 0241-0242  | 0401-0402  | 0561-0562  |
| 0101-0102  | 0261-0262  | 0421-0422  | 0581-0582  |
| 0121-0122  | 0281-0282  | 0441-0442  | 0601-0602  |
| 0141-0142  | 0301-0302  | 0461-0462  | 0621-0622  |

| Unit<br>5  | Unit<br>6  | Unit<br>7  | Unit<br>8  |
|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| 0641-0642  | 0801-0802  | 0961-0962  | 1121-1122  |
| 0661-0662  | 0821-0822  | 0981-0982  | 1141-1142  |
| 0681-0682  | 0841-0842  | 1001-1002  | 1161-1161  |
| 0701-0702  | 0861-0862  | 1021-1022  | 1181-1182  |
| 0721-0722  | 0881-0882  | 1041-1042  | 1201-1202  |
| 0741-0742  | 0901-0902  | 1061-1062  | 1221-1222  |
| 0761-0762  | 0921-0922  | 1081-1082  | 1241-1242  |
| 0781-0782  | 0941-0942  | 1101-1102  | 1261-1262  |

| Unit<br>9  | Unit<br>10 | Unit<br>11 | Unit<br>12 |
|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| 1281-1282  | 1441-1442  | 1601-1602  | 1761-1762  |
| 1301-1302  | 1461-1462  | 1621-1622  | 1781-1782  |
| 1321-1322  | 1481-1482  | 1641-1642  | 1801-1802  |
| 1341-1342  | 1501-1502  | 1661-1662  | 1821-1822  |
| 1361-1362  | 1521-1522  | 1681-1682  | 1841-1842  |
| 1381-1382  | 1541-1542  | 1701-1702  | 1861-1862  |
| 1401-1402  | 1561-1562  | 1721-1722  | 1881-1882  |
| 1421-1422  | 1581-1582  | 1741-1742  | 1901-1902  |

| Unit<br>13 | Unit<br>14 | Unit<br>15 | Unit<br>16 |
|------------|------------|------------|------------|
| NPC        | NPC        | NPC        | NPC        |
| 1921-1922  | 2081-2082  | 2241-2242  | 2401-2402  |
| 1941-1942  | 2101-2102  | 2261-2262  | 2421-2422  |
| 1961-1962  | 2121-2122  | 2281-2282  | 2441-2442  |
| 1981-1982  | 2141-2142  | 2301-2302  | 2461-2462  |
| 2001-2002  | 2161-2162  | 2321-2322  | 2481-2482  |
| 2021-2022  | 2181-2182  | 2341-2342  | 2501-2502  |
| 2041-2042  | 2201-2202  | 2361-2362  | 2521-2522  |
| 2061-2062  | 2221-2222  | 2381-2382  | 2541-2542  |

**mbnop** - Hierarchical MB type NPC number

**mb** - Unit number  
**n** - Module number  
**op** - NPC number

The valid values are:

MB type NPC numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

| Unit  | Module | NPC   |
|-------|--------|-------|
| 01-16 | 1-8    | 01-02 |

**lll** - Number of legs involved in the multipoint conference (000 through 256)

**[s]vnp** - The 3- or 4-digit nonhierarchical virtual NPC number

DACS II Non-CEF frames support two virtual NPCs using the three digit NPC numbering scheme. The valid values for Non-CEF frames are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit  
-

**NPC**  
**961-962**

DACS II CEF frames support six virtual NPCs using either a three digit or four digit NPC numbering scheme. If NPC numbers are expressed in three digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**961-966**

If NPC numbers are expressed in four digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**9961-9966**

**vnprs** - Hierarchical virtual NPC number

**vn** - Unit number

**p** - Module number

**rs** - NPC number

The valid values are:

VI NPC numbers listed by unit, module, and NPC Number

Unit Type VI (Virtual)

| Unit      | Module   | NPC          |                                 |
|-----------|----------|--------------|---------------------------------|
| <b>99</b> | <b>1</b> | <b>01-02</b> | <b>(DACS II Non-CEF frames)</b> |
| <b>99</b> | <b>1</b> | <b>01-06</b> | <b>(DACS II CEF frames)</b>     |

**e** - Number of lines in the message segment

**tnnn** - Virtual conference type and number

**t** - Virtual conference type

**nnn** - Virtual conference number (001 through 500)

**t** *Explanation*

**\*** one-way

**blank** two-way

**DPLX** - Duplex

Duplex equipped

**ACTPL** - Active protection line

Queried SLC<sup>®</sup> carrier NPC is a protection line which is active

**NACPL** - Nonactive protection line

Queried SLC carrier NPC is a protection line which is not active

**[t]kkk** - The 3- or 4-digit nonhierarchical NPC number

Corresponding SLC carrier Digroup A (DGA) NPC number

Valid values are identical to [s]abc

**uvkkk** - Hierarchical NPC number

SLC carrier digroup A (DGA) NPC number

**SWMR** - Switch manually requested

Protection switch manually requested for SLC carrier NPC

**SWAR** - Switch automatically requested

Protection switch automatically requested for SLC carrier NPC

**FAD** - Facility access digroup

Non-channelized Test NPC

**Note:** In a message segment containing information for an FAD type NPC, the NPCs under test will be listed without the type of the connection they are in.



**tmode** - Nonchannelized test mode

**E-end** - Equipment end

**F-end** - Facility end

*tmode Explanation*

**MONE** Monitor signal from E-end NPC to F-end NPC of unmapped or one-/two-way mapped test session

**MONF** Monitor signal from F-end NPC to E-end NPC of a two-way mapped test session

**MONEF** Monitor a two-way mapped connection in both directions  
Two FADs are connected for the test session,  
and test mode can only be changed to SPLTEF

**SPLTA** Split the A signal from the E-end NPC to the F-end NPC of one-/two-way mapped test session

**SPLTB** Split the B signal from the F-end NPC to the E-end NPC of a mapped two-way test session

**SPLTAB** Split a two-way mapped circuit in both directions

**SPLTE** Split the input and output ports of E-end NPC of an unmapped or two-way mapped test session

**SPLTF** Split the input and output ports of F-end NPC of a two-way mapped test session

**SPLTEF** Split a two-way mapped test session in both directions  
Two FADs are connected for the test session,  
and test mode can only be changed to MONEF

**LOOPE** Loop the E-end input port to the output port,  
and connect the looped signal to the FAD

The test session may include an unmapped or two-way mapped connection

**LOOPF** Loop the F-end input port to the output port,  
and connect the looped signal to the FAD

Only for a two-way mapped test session  
Not allowed for one-way broadcast tributaries

**[s]jkl** - The 3- or 4-digit nonhierarchical NPC number

Values are identical to [s]abc

For Clear DS1 NPCs

**edhfg** - Hierarchical NPC number

**ed** - Unit number  
**h** - Module number  
**fg** - NPC number within the module

Valid values are identical to uvmnp

**[t][v]ghi[r]**

- Nonhierarchical termination number and state

**t** - Type of connection  
**[v]ghi** - The 3- or 4- digit nonhierarchical NPC number  
**r** - Termination state

Valid values are identical to abc

**[t]ghikl[r]**

- Hierarchical termination number and state

**t** - Type of connection  
**gh** - Unit number  
**i** - Module number  
**kl** - NPC number  
**r** - Termination state

Valid values are identical to uvmnp

**Note:** For an FAD, the tested NPC is listed first if only one of the two mapped NPCs is under test.

## **UTL, QRY, DS3, BERMT, UNIT**

### **UTILITY QUERY DS3 BIT ERROR RATE**

#### **Explanation Of Command**

This message reports the bit error rate calculation method and the bit error rate threshold setting for the DS3 facilities in a DS3 unit or for all of the DS3 units in a DACS II frame.

#### **Command**

[I.53221]

UTL:FRM xy,SEQ ww:QRY,DS3,BERMT[,UNIT [q]q]!

#### **Completion Message**

[O.53221]

M hh:mm:ss xy,ww n[vv] UTL QRY DS3 BERMT UNIT [q]q 3 LN MSG:

BERM m<sub>1</sub> . . . m<sub>6</sub>  
BERT t<sub>1</sub> . . . t<sub>6</sub> EOM

M hh:mm:ss xy,ww n[vv] UTL QRY DS3 BERMT COMPL

[O.53222]

M hh:mm:ss xy,ww n[vv] UTL QRY DS3 BERMT NONE COMPL

#### **Denial Message**

[O.53221.01]

M hh:mm:ss xy,ww n[vv] UTL QRY DS3 BERMT UNIT [q]q COND cc DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**DS3** - Digital signal 3

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**BERM** - Bit error rate calculation method

**BERT** - Bit error rate threshold

**BERMT** - Both BERM and BERT

$m_1 \dots m_6$   
- BERM setting for DS3 1 through 6

| <i>m</i> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|   |                    |
|---|--------------------|
| B | Bipolar violations |
|---|--------------------|

|   |                   |
|---|-------------------|
| P | DS3 Parity Errors |
|---|-------------------|

|   |                                                                |
|---|----------------------------------------------------------------|
| - | The Service MXR associated with the DS3 facility is unequipped |
|---|----------------------------------------------------------------|

$t_1 \dots t_6$   
- BERT setting for DS3 1 through 6

| <i>t</i> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|   |                     |
|---|---------------------|
| 3 | $10^{-3}$ threshold |
|---|---------------------|

|   |                     |
|---|---------------------|
| 6 | $10^{-6}$ threshold |
|---|---------------------|

|   |                                                                |
|---|----------------------------------------------------------------|
| - | The Service MXR associated with the DS3 facility is unequipped |
|---|----------------------------------------------------------------|

**cc** - Hexadecimal condition code

| <b>cc</b> | <i>Explanation</i> |
|-----------|--------------------|
|-----------|--------------------|

|           |                      |
|-----------|----------------------|
| <b>10</b> | Unit is not equipped |
|-----------|----------------------|

## **UTL, QRY, DS3, LBO**

### **QUERY DS3 LINE BUILD OUT**

#### **Explanation Of Command**

This message reports the line buildout (LBO) settings for the DS3 facilities on the DACS II frame. Output is printed only for DS3 units that are equipped.

#### **Command**

[I.53231]

UTL:FRM xy,SEQ ww:QRY,DS3,LBO!

#### **Completion Message**

[O.53231]

M hh:mm:ss xy,ww n[vv] UTL QRY DS3 LBO e LN MSG:

UNIT [q]q 1bbb 2bbb 3bbb 4bbb 5bbb 6bbb

          :          :  
          :          :

UNIT [q]q 1bbb 2bbb 3bbb 4bbb 5bbb 6bbb COMPL

The following message will be generated if no service MXR is equipped in the DACS frame.

[O.53232]

M hh:mm:xx xy,ww n[vv] UTL QRY DS3 LBO NONE COMPL

#### **Denial Message**

Not applicable.

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**DS3** - Digital signal 3 (44.736 Mb/s rate)

**e** - Number of line in the segment (2 through 5)

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**LBO** - The line buildout setting provisioned per DS3 facility.

**bbb** - LBO setting for each DS3 facility

*bbb Explanation*

ON Line buildout is turned on

OFF Line build out is turned off

--- Service MXR corresponding to the DS3 is not equipped

LBO is required as shown in the following table.

734A Cabling to DSX-3 KS-19224, L2 Cabling to DSX-3 LBO

|                 |                |     |
|-----------------|----------------|-----|
| 0 to 225 feet   | 0 to 75 feet   | ON  |
| 225 to 450 feet | 75 to 150 feet | OFF |

## **UTL, QRY, ECLOC**

---

### **QUERY ERROR CORRECTION LOCATION**

#### **Explanation Of Command**

---

This Subrate message requests the current setting of the error correction location (ECLOC) functions. The ECLOC is the type of Subrate circuit pack to which all new error correction functions will be allocated. Such resources are allocated for channels requiring parity channel error correction and for circuits with Subrate error correction that do not connect to a Subrate multiplexer or a multipoint junction unit. The ECLOC is set using the CHG, FROM, TO, NOT or CHG, FROM, TO, TLP commands. The ECLOC is set using the ED, PRMTR, T0, INCL, TERM or ED, PRMTR, T0, INCL, TLP commands.

#### **Command**

---

[I.51511]

UTL:FRM xy,SEQ ww:QRY,ECLOC!

#### **Completion Message**

---

[O.51511]

M hh:mm:ss xy,ww v[nn] UTL QRY ECLOC TYPE sss COMPL

#### **Denial Message**

---

Not applicable.

#### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**ECLOC** - Error correction location

**TYPE** - Type

**sss** - Subrate NPC type

| <i>sss</i> | <i>Explanation</i> |
|------------|--------------------|
|------------|--------------------|

|     |                     |
|-----|---------------------|
| SRM | Subrate multiplexer |
|-----|---------------------|

|     |                                    |
|-----|------------------------------------|
| MJU | Multipoint junction unit (default) |
|-----|------------------------------------|



## **UTL, QRY, EQD, COMMON**

### **UTILITY QUERY EQUIPAGE, COMMON**

#### **Explanation Of Command**

This message requests reports on the equipage of common equipment in the frame.

In the output message each entity is represented by a single character alphabetic variable. The value of this variable gives the equipage status of the entity represented by the variable.

#### **Command**

[I.53109]

**UTL:FRM xy,SEQ ww:QRY,EQD,COMMON!**

### **Completion Message**

---

[O.53109]

M hh:mm:ss xy,ww n[vv] UTL QRY EQD g h i j k l m n o p EOM

M hh:mm:ss xy,ww n[vv] UTL QRY EQD 3 LN MSG:  
SYNC x y CRO x  
TLI x x x x x x x x y y y y y y y y EOM

For DACS II Non-CEF frames, the next segment describes the CCN hardware:

M hh:mm:ss xy,ww n[vv] UTL QRY EQD TOTAL TSIS tt nn 5 LN MSG:  
11 x y 12 x y 13 x y 14 x y 15 x y 16 x y  
21 x y 22 x y 23 x y 24 x y 25 x y 26 x y  
31 x y 32 x y 33 x y 34 x y 35 x y 36 x y  
41 x y 42 x y 43 x y 44 x y 45 x y 46 x y EOP

M hh:mm:ss xy,ww n[vv] UTL QRY EQD TOTAL TSIS tt nn 3 LN MSG:  
51 x y 52 x y 53 x y 54 x y 55 x y 56 x y  
61 x y 62 x y 63 x y 64 x y 65 x y 66 x y EOM

For DACS II CEF frames, the next segment describes the ECCN hardware:

M hh:mm:ss xy,ww n[vv] UTL QRY EQD TOTAL ETSIS tt 3 LN MSG:  
01 x y 02 x y 03 x y 04 x y 05 x y 06 x y 07 x y 08 x y  
09 x y 10 x y 11 x y 12 x y 13 x y 14 x y 15 x y 16 x y EOM

M hh:mm:ss xy,ww n[vv] UTL QRY EQD COMMON COMPL

### **Denial Message**

---

Not applicable.

### **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

---

**EQD** - Equipped

*The equipage status of an entity is given as follows:*

|   |            |
|---|------------|
| 1 | Equipped   |
| 0 | Unequipped |

The DACS II entities and their status fields are as follows:

|          |                                                                                                                     |
|----------|---------------------------------------------------------------------------------------------------------------------|
| <b>g</b> | - Link 1                                                                                                            |
| <b>h</b> | - Link 2                                                                                                            |
| <b>i</b> | - Link 3                                                                                                            |
| <b>j</b> | - Link 4                                                                                                            |
| <b>k</b> | - Link 5                                                                                                            |
| <b>l</b> | - Link 6                                                                                                            |
| <b>m</b> | - XC0 (Cross-connect 0)                                                                                             |
| <b>n</b> | - XC1 (Cross-connect 1)                                                                                             |
| <b>o</b> | - CCNI/CCI 0 (Cross-connect network interface 0 for non-CEF frame)<br>(Clock and control interface 0 for CEF frame) |
| <b>p</b> | - CCNI/CCI 1 (Cross-connect network interface 1 for non-CEF frame)<br>(Clock and control interface 1 for CEF frame) |

**TLI** - Timing link interface

**x** - Side 0

**y** - Side 1

The TLI entities are listed, in the messages, from left to right in the following order.

**TLI 1, SSP 0**

**TLI 1, SSP 1**

**TLI 2, SSP 0**

**TLI 2, SSP 1**

**TLI 3, SSP 0**

**TLI 3, SSP 1**

**TLI 4, SSP 0**

**TLI 4, SSP 1**

**TLI 1, SSP 0**

**TLI 1, SSP 1**

**TLI 2, SSP 0**

**TLI 2, SSP 1**

**TLI 3, SSP 0**

**TLI 3, SSP 1**

**TLI 4, SSP 0**

**TLI 4, SSP 1**

**TSIS** - Time slot interchanges **NonCEF**

**ETSIS** - Expanded time slot interchangers **CEF**

**f** - FROM unit (1 through 6)

**t** - TO Unit (1 through 6)

**SYNC** - Synchronizer

**x** - Side 0 synchronizer equipage status

**y** - Side 1 synchronizer equipage status

**CRO** - Clock reference oscillator

**x** - CRO equipage status

**tt** - Total number of equipped TSIs/ETSIs.

---

## UTL, QRY, EQD, CONN

---

### UTILITY QUERY, EQUIPMENT CONNECTIVITY

#### Explanation Of Command

---

This message requests a printout of an interunit connectivity matrix. A "1" indicates cross-connections are made between the two units listed in the row and column. A "0" indicates no connectivity between the two units.

The matrix also serves as an equiPAGE map of the time slot interchange (TSI) circuit packs on each side of the cross-connect network.

The 6 X 6 matrix is shown in halves in the PDS output message.

#### Command

---

[I.53031]

UTL:FRM xy,SEQ ww:QRY,EQD,CONN!

#### Completion Message

---

[O.53031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD CONN 5 LN MSG:
UNITS 1 2 3 4 5 6 UNITS 1 2 3 4 5 6
    1 x x x x x x    4 x x x x x x
    2 x x x x x x    5 x x x x x x
    3 x x x x x x    6 x x x x x x COMPL
```

#### Denial Message

---

Not applicable.

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**EQD** - Request equipage status

**CONN** - Request information on connectivity between units

**x** - Interunit connectivity

x Explanation

1 Connectivity

0 No connectivity

---

## UTL, QRY, EQD, ETSIS

---

UTILITIES, ETSIS

### Explanation Of Command

---

This message requests equipage information for all expanded time slot interchange circuit packs.

### Command

---

[I.53022]

UTL:FRM xy,SEQ ww:QRY,EQD,ETISIS!

### Completion Message

---

[O.53022]

M hh:mm:ss xy,ww n[vv] UTL QRY EQD ETSIS 4 LN MSG:

TOTAL ETSIS tt

|         |         |         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0qq 1qq | 0qq 1qq | 0qq 1qq | 0qq 1qq | 0qq 1qq | 0qq 1qq | 0qq 1qq | 0qq 1qq | 0qq 1qq |
| 0qq 1qq | 0qq 1qq | 0qq 1qq | 0qq 1qq | 0qq 1qq | 0qq 1qq | 0qq 1qq | 0qq 1qq | COMPL   |

### Denial Message

---

Not applicable.

### Autonomous Message

---

Not applicable.

### **Explanation Of Parameters**

---

**EQD** - Request equipage status

**ET SIS** - Request information on ETSI circuit packs

**tt** - Total number of equipped ETSIs (00 through 32)

**qq** - Unit number (01 through 16)

If the ETSI pack is not equipped, the number "00" shall be shown in the "qq" field. The "0" or "1" shown before the "qq" is the side number.



---

## UTL, QRY, EQD, MIUS

---

### QUERY EQUIPPED MULTIPLEXER INTERFACE UNITS

#### Explanation Of Command

---

This message queries the equipage of the Multiple Interface Units (MIUs) in a DACS II frame.

This message queries the equipage of the Multiplexer Interface Units (MIUs) in a DACS II frame.

#### Command

---

[I.53201]

UTL:FRM xy,SEQ ww:QRY,EQD,MIUS!

#### Completion Message

---

[O.53201]

M hh:mm:ss xy,ww n[vv] UTL QRY EQD MIUS ttt e LN MSG:  
UNIT [q]q Pmxyz 1mxyz 2mxyz 3mxyz 4mxyz 5mxyz 6mxyz \  
TOTAL a

.  
.  
.

UNIT [q]q Pmxyz 1mxyz 2mxyz 3mxyz 4mxyz 5mxyz 6mxyz \  
TOTAL a COMPL

[O.53202]

M hh:mm:ss xy,ww n[vv] UTL QRY EQD MIUS TOTAL 000 COMPL

**Note:** This command will be generated if no MIUs are equipped in the DACS II frame.

### **Denial Message**

---

Not applicable.

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**EQD** - Equipped state

**MIUS** - Multiplexer interface units

Only units that are equipped as DS3 units will have corresponding output lines.

**ttt** - Total number of equipped MIUs in the DACS frame (001 through 112)  
(including protection MIUs)

**e** - Number of lines in a message segment (2 through 5)

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**TOTAL** - Total

**a** - The number of equipped MIUs in a unit (1 through 7)

**mnxyz** - NPC-type identifier

mnxyz Explanation

MI100 Multiplexer interface unit

----- Unequipped

Variable xyz will always have the value 100.

## **UTL, QRY, EQD, MXRS**

UTILITIES, QUERY, EQUIPPED, MULTIPLEXERS

### **Explanation Of Command**

This message queries the equipment of the Multiplexers (MXRs) in the DS3 Unit Service slots of the DACS II frame.

### **Command**

[I.53211]

UTL:FRM xy,SEQ ww:QRY,EQD,MXRS!

### **Completion Message**

[O.53211]

M hh:mm:ss xy,ww n[vv] UTL QRY EQD MXRS tt e LN MSG:

UNIT [q]q 1mnxyz 2mnxyz 3mnxyz 4mnxyz 5mnxyz 6mnxyz TOTAL a

.  
.  
.

UNIT [q]q 1mnxyz 2mnxyz 3mnxyz 4mnxyz 5mnxyz 6mnxyz TOTAL a COMPL

[O.53212]

M hh:mm:ss xy,ww n[vv] UTL QRY EQD MXRS TOTAL 00 COMPL

**Note:** This command will be generated if no MXRs are equipped in the DACS II frame.

### **Denial Message**

Not applicable.

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**EQD** - Equipped state

**MXRS** - Service Multiplexers

Only units that are equipped as DS3 Units will have corresponding output lines.

**tt** - total number of equipped MXRs in the DACS frame (01 through 96) (not including Protection MXRs)

**e** - number of lines in a segment (2 through 5)

**a** - the number of equipped Service MXRs in a unit (1 through 6)

**mnxyz** - The DS3 format processed by the MXR:

| <b>mn</b> | <i>Explanation</i> |
|-----------|--------------------|
|-----------|--------------------|

|           |                                                                                     |
|-----------|-------------------------------------------------------------------------------------|
| <b>MX</b> | the original R4.0 DS3 facility type supported by the Multiplexer (MXR) circuit pack |
|-----------|-------------------------------------------------------------------------------------|

|           |                                                                                               |
|-----------|-----------------------------------------------------------------------------------------------|
| <b>EX</b> | the enhanced R6.0 DS3 facility type supported by the Enhanced Multiplexer (EMXR) circuit pack |
|-----------|-----------------------------------------------------------------------------------------------|

Default is the MX type for backward compatibility.

MX/EX-type xyz fields

**x** - the DS3 framing format

| <b>x</b> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|          |                      |
|----------|----------------------|
| <b>1</b> | M13 format (default) |
|----------|----------------------|

|          |                     |
|----------|---------------------|
| <b>2</b> | C-bit parity format |
|----------|---------------------|

**y** - not assigned (the only valid value is 0)

**z** - not assigned (the only valid value is 0)

**Note:** If a particular MXR is not equipped, five hyphens(-----) will occupy the mnxyz field.

## **UTL, QRY, EQD, NPCS, TOTAL, UNIT**

### **QUERY EQUIPPED NPCS**

#### **Explanation Of Command**

This command reports the equipage state for each of the network processing circuits (NPCs) on the DACS II frame and can provide the total number of circuits that are equipped in the facility terminating units (FTU), DS3 units (DS3U), and digital signal processing units (DSPU).

The results of the output message are in fragment sequence starting with the lowest unit number and ending with the highest NPC number.

Within a fragment, the information is listed in NPC number sequence, starting with the lowest number at the top left and increasing to the right. The next line starts with the next highest NPC number.

The output of a partially equipped frame should conform to these rules:

- Omit the output message fragments for half of a DS1 facility terminating module (FTM) for which there are no equipped NPCs.
- In nonhierarchical addressing, omit the output message fragment for one DS3 FTM (multiplexer) for which there are no equipped NPCs.
- In hierarchical addressing, omit the output message fragment for half a DS3 FTM (multiplexer) for which there are no equipped NPCs.
- Unequipped unit or module will not be reported
- The output will report on NPCs in increasing unit number order, regardless of whether the units are equipped as FTU, DS3U, or DSPU.
- If there are no DSPUs, the DSPU part is omitted.
- If there are no equipped FTUs, DS3Us, and DSPU NPCs, the output is given in message 53043.
- The DS3U keyword will only be generated in message 53043 if the DS3 feature bit is enabled in the software.
- The range of NPCs in one DS1 FTM will be spanned in two output segments.
- The range of nonhierarchical NPCs in one DS3 FTM will be spanned in one output segment.
- The range of hierarchical NPCs in one DS3 FTM will be spanned in two output segments.
- The range of NPCs in one DSPU will be spanned by one output segment.

## Command

---

[I.53041]

UTL:FRM xy,SEQ ww:QRY,EQD,NPCS[, {TOTAL|UNIT [q]q}]!

## Completion Message

### Nonhierarchical

Output message fragment for NPCS in one DS1 FTM:

[O.53041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD FTU NPCS [UNIT [q]q] tt 5 LN MSG:
[c]cccmnxyz [c]cccmnxyz [c]cccmnxyz [c]cccmnxyz [c]cccmnxyz
[c]cccmnxyz [c]cccmnxyz [c]cccmnxyz [c]cccmnxyz [c]cccmnxyz
[c]cccmnxyz [c]cccmnxyz [c]cccmnxyz [c]cccmnxyz [c]cccmnxyz
[c]cccmnxyz [c]cccmnxyz [c]cccmnxyz [c]cccmnxyz [c]cccmnxyz EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD FTU NPCS [UNIT [q]q] tt 5 LN MSG:
[c]cccmnxyz [c]cccmnxyz [c]cccmnxyz [c]cccmnxyz [c]cccmnxyz
[c]cccmnxyz [c]cccmnxyz [c]cccmnxyz [c]cccmnxyz [c]cccmnxyz
[c]cccmnxyz [c]cccmnxyz [c]cccmnxyz [c]cccmnxyz [c]cccmnxyz
[c]cccmnxyz [c]cccmnxyz [c]cccmnxyz [c]cccmnxyz [c]cccmnxyz EOM
```

Output message fragment for NPCS in one DS3 FTM (NPCS served by one MXR):

[O.53041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD DS3U NPCS [UNIT [q]q] tt 5 LN MSG:
[d]dddmnxyz [d]dddmnxyz [d]dddmnxyz [d]dddmnxyz [d]dddmnxyz \
[d]dddmnxyz [d]dddmnxyz
[d]dddmnxyz [d]dddmnxyz [d]dddmnxyz [d]dddmnxyz [d]dddmnxyz \
[d]dddmnxyz [d]dddmnxyz
[d]dddmnxyz [d]dddmnxyz [d]dddmnxyz [d]dddmnxyz [d]dddmnxyz \
[d]dddmnxyz [d]dddmnxyz
[d]dddmnxyz [d]dddmnxyz [d]dddmnxyz [d]dddmnxyz [d]dddmnxyz \
[d]dddmnxyz [d]dddmnxyz EOM
```

Output message fragment for 3 digit nonhierarchical NPCS in one DSP unit:

[O.53041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD DSPU NPCS [UNIT [q]q] tt 2 LN MSG:
aaamnxyz aaamnxyz aaamnxyz aaamnxyz aaamnxyz aaamnxyz \
aaamnxyz aaamnxyz EOM
```

Output message fragment for 4-digit nonhierarchical NPCS in one DSP unit:

[O.53041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD DSPU NPCS [UNIT [q]q] tt 3 LN MSG:
[a]aaamnxyz [a]aaamnxyz [a]aaamnxyz [a]aaamnxyz
[a]aaamnxyz [a]aaamnxyz [a]aaamnxyz [a]aaamnxyz EOM
```

## Hierarchical

Output message fragment for NPCs in one DS1 FTM:

[O.53041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD FTU NPCS [UNIT [q]q] tt 5 LN MSG:
uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz
uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz
uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz
uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD FTU NPCS [UNIT [q]q] tt 5 LN MSG:
uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz
uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz
uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz
uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz EOM
```

Output message fragment for NPCs in one DS3 FTM (NPCs served by one MXR):

[O.53041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD DS3U NPCS [UNIT [q]q] tt 5 LN MSG:
uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz
uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz
uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz
uvmnppmnxyz uvmnppmnxyz EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD DS3U NPCS [UNIT [q]q] tt 5 LN MSG:
uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz
uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz
uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz
uvmnppmnxyz uvmnppmnxyz EOM
```

Output message fragment for NPCs in one DSP unit:

[O.53041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD DSPU NPCS [UNIT [q]q] tt e LN MSG:
uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz
uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz uvmnppmnxyz EOM
```



### **Common**

---

Output message when the TOTAL keyword is specified:

[O.53042]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD NPCS TOTAL e LN MSG:
FTU nnnn fff fff fff fff fff fff fff fff fff fff fff \
fff fff fff fff
DS3U hhhh ggg ggg ggg ggg ggg ggg ggg ggg ggg ggg \
ggg ggg ggg ggg
DSPU pppp qqg qqg qqg qqg qqg qqg qqg qqg qqg qqg \
qqg qqg qqg qqg COMPL
```

Output message when there are no equipped NPCs on the frame:

[O.53043]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD NPCS [UNIT [q]q] [FTU 0000]\
[ DS3U 0000][ DSPU 000] COMPL
```

Overall completion message:

[O.53041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD NPCS [UNIT [q]q] COMPL
```

### **Denial Message**

---

[O.53041.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD NPCS UNIT [q]q COND cc DNY
```

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

---

**EQD** - Equipped

Request equipage status

**NPCS** - Network processing circuits

Request information on NPCs

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**TOTAL** - Total

Request summary information

**tt** - Total number of NPCs in a segment

**mnxyz** - The equipage state and type of the NPCs

**mnxyz** *Explanation*

----- Not equipped

**mn** - The type of NPC

Valid values are listed below:

| mn | Explanation |
|----|-------------|
|----|-------------|

|    |                       |
|----|-----------------------|
| DA | Dual digroup ANSI NPC |
|----|-----------------------|

|    |                  |
|----|------------------|
| DE | Dual digroup NPC |
|----|------------------|

|    |                  |
|----|------------------|
| DS | SLC® carrier NPC |
|----|------------------|

|    |                               |
|----|-------------------------------|
| MB | Digital multipoint bridge NPC |
|----|-------------------------------|

|    |                              |
|----|------------------------------|
| MJ | Multipoint junction unit NPC |
|----|------------------------------|

|    |                              |
|----|------------------------------|
| SR | Subrate multiplexer unit NPC |
|----|------------------------------|

|    |               |
|----|---------------|
| TA | DS3U ANSI NPC |
|----|---------------|

|    |                            |
|----|----------------------------|
| TE | DS3U Noninterface unit NPC |
|----|----------------------------|

**xyz** - The parameters used to provision the NPC.

See GRTH,NPC,TYPE and GRTH,NPC,TYPE,OPTS,IW,X,AIS,INFO,MJ,MN for values.

**[a]aaa** - The 3- or 4-digit nonhierarchical NPC number for DSPU NPCs

Valid values are listed below (or ---).

If NPC numbers are expressed in three digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

| Unit<br>1  | Unit<br>2  | Unit<br>3  | Unit<br>4  | Unit<br>5  | Unit<br>6  |
|------------|------------|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| <b>001</b> | <b>161</b> | <b>321</b> | <b>481</b> | <b>641</b> | <b>801</b> |
| <b>021</b> | <b>181</b> | <b>341</b> | <b>501</b> | <b>661</b> | <b>821</b> |
| <b>041</b> | <b>201</b> | <b>361</b> | <b>521</b> | <b>681</b> | <b>841</b> |
| <b>061</b> | <b>221</b> | <b>381</b> | <b>541</b> | <b>701</b> | <b>861</b> |
| <b>081</b> | <b>241</b> | <b>401</b> | <b>561</b> | <b>721</b> | <b>881</b> |
| <b>101</b> | <b>261</b> | <b>421</b> | <b>581</b> | <b>741</b> | <b>901</b> |
| <b>121</b> | <b>281</b> | <b>441</b> | <b>601</b> | <b>761</b> | <b>921</b> |
| <b>141</b> | <b>301</b> | <b>461</b> | <b>621</b> | <b>781</b> | <b>941</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

| Unit<br>1   | Unit<br>2   | Unit<br>3   | Unit<br>4   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0001</b> | <b>0161</b> | <b>0321</b> | <b>0481</b> |
| <b>0021</b> | <b>0181</b> | <b>0341</b> | <b>0501</b> |
| <b>0041</b> | <b>0201</b> | <b>0361</b> | <b>0521</b> |
| <b>0061</b> | <b>0221</b> | <b>0381</b> | <b>0541</b> |
| <b>0081</b> | <b>0241</b> | <b>0401</b> | <b>0561</b> |
| <b>0101</b> | <b>0261</b> | <b>0421</b> | <b>0581</b> |
| <b>0121</b> | <b>0281</b> | <b>0441</b> | <b>0601</b> |
| <b>0141</b> | <b>0301</b> | <b>0461</b> | <b>0621</b> |

| Unit<br>5   | Unit<br>6   | Unit<br>7   | Unit<br>8   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0641</b> | <b>0801</b> | <b>0961</b> | <b>1121</b> |
| <b>0661</b> | <b>0821</b> | <b>0981</b> | <b>1141</b> |
| <b>0681</b> | <b>0841</b> | <b>1001</b> | <b>1161</b> |
| <b>0701</b> | <b>0861</b> | <b>1021</b> | <b>1181</b> |
| <b>0721</b> | <b>0881</b> | <b>1041</b> | <b>1201</b> |
| <b>0741</b> | <b>0901</b> | <b>1061</b> | <b>1221</b> |
| <b>0761</b> | <b>0921</b> | <b>1081</b> | <b>1241</b> |
| <b>0781</b> | <b>0941</b> | <b>1101</b> | <b>1261</b> |
| Unit<br>9   | Unit<br>10  | Unit<br>11  | Unit<br>12  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1281</b> | <b>1441</b> | <b>1601</b> | <b>1761</b> |
| <b>1301</b> | <b>1461</b> | <b>1621</b> | <b>1781</b> |
| <b>1321</b> | <b>1481</b> | <b>1641</b> | <b>1801</b> |
| <b>1341</b> | <b>1501</b> | <b>1661</b> | <b>1821</b> |
| <b>1361</b> | <b>1521</b> | <b>1681</b> | <b>1841</b> |
| <b>1381</b> | <b>1541</b> | <b>1701</b> | <b>1861</b> |
| <b>1401</b> | <b>1561</b> | <b>1721</b> | <b>1881</b> |
| <b>1421</b> | <b>1581</b> | <b>1741</b> | <b>1901</b> |
| Unit<br>13  | Unit<br>14  | Unit<br>15  | Unit<br>16  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1921</b> | <b>2081</b> | <b>2241</b> | <b>2401</b> |
| <b>1941</b> | <b>2101</b> | <b>2261</b> | <b>2421</b> |
| <b>1961</b> | <b>2121</b> | <b>2281</b> | <b>2441</b> |
| <b>1981</b> | <b>2141</b> | <b>2301</b> | <b>2461</b> |
| <b>2001</b> | <b>2161</b> | <b>2321</b> | <b>2481</b> |
| <b>2021</b> | <b>2181</b> | <b>2341</b> | <b>2501</b> |
| <b>2041</b> | <b>2201</b> | <b>2361</b> | <b>2521</b> |
| <b>2061</b> | <b>2221</b> | <b>2381</b> | <b>2541</b> |

**uvmnp** - Hierarchical NPC number

On either DS1 FTM, DS3 FTM, or DSP unit.

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

Valid values are listed below (or -----, -----).

DE, DS, and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

MB, SR, and MJ type numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

|              |            |           |
|--------------|------------|-----------|
| Unit         | Module     | NPC       |
| <b>01-16</b> | <b>1-8</b> | <b>01</b> |

**nnnn** - Total number of FTU NPCs on the frame.

Dashes (----) will be shown if no unit is grown.

**fff** - Total number of NPCs on each FTU.

Dashes (---) will be shown if the unit is not grown or is not grown as an FTU.

**pppp** - Total number of DSPU NPCs on the frame.

Dashes (----) will be shown if no unit is equipped.

**qqq** - Total number of NPCs on each DSPU.

Dashes (---) will be shown if the unit is not grown or is not grown as a DSPU.

**e** - number of lines in a segment

**[c]ccc** - The 3- or 4-digit nonhierarchical NPC number for domestic DS1 FTM

Valid values are listed below (or ---).

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                |                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|----------------|
| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

**[d]ddd** - The 3- or 4-digit nonhierarchical NPC number for DS3U NPCs

Valid values are listed below (or ---).

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**hhhh** - Total number of DS3U NPCs on the frame.

Dashes (----) will be shown if no unit is grown.

**ggg** - Total number of NPCs on each DS3U.

Dashes (---) will be shown if the unit is not grown or is not grown as a DS3U.

**cc** - Hexadecimal condition code

**cc** *Explanation*

**10** Unit is not equipped

---

## UTL, QRY, EQD, TSIS

---

### UTILITY QUERY EQUIPPED

#### Explanation Of Command

---

This message requests a printout for all the equipped time slot interchange (TSI) circuit packs.

A fully equipped Enclosed Single Bay Frame (ESBF) shows the following TSI equipage status:

11 15 51 55

A fully equipped non-ESBF frame shows the following TSI equipage status:

|                   |                   |
|-------------------|-------------------|
| 11 12 13 14 15 16 | 41 42 43 44 45 46 |
| 21 22 23 24 25 26 | 51 52 53 54 55 56 |
| 31 32 33 34 35 36 | 61 62 63 64 65 66 |

#### Command

---

[I.53021]

UTL:FRM xy,SEQ ww:QRY,EQD,TSIS!

#### Completion Message

---

[O.53021]

M hh:mm:ss xy,ww n[vv] UTL QRY EQD TSIS 5 LN MSG:  
TOTAL TSIS tt  
ft ft ft ft ft ft ft ft ft ft ft ft  
ft ft ft ft ft ft ft ft ft ft ft ft  
ft ft ft ft ft ft ft ft ft ft ft COMPL



### **Denial Message**

---

Not applicable.

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**EQD** - Request equipage status

**TSIS** - Request information on TSI circuit packs

**tt** - Total number of equipped TSIs on the in-service side. The total number of equipped TSIs in the frame is twice this number.

**ft** - TSI equipage status:

| <i>ft</i> | <i>Explanation</i> |
|-----------|--------------------|
| 00        | Unequipped         |
| TSI No.   | Equipped           |

## **UTL, QRY, EQD, UNIT**

### **UTILITY QUERY ENTITY EQUIPAGE**

#### **Explanation Of Command**

This command is used to retrieve the state information associated with equipment.

The UNIT option is specified only when the EQPT modifier is used to query that unit. The UNIT field will be null when the command is used to query the whole frame.

#### **Command**

[I.53108]

**UTL:FRM xy,SEQ ww:QRY,EQD[,UNIT [q]q]!**

## **Completion Message**

### **Nonhierarchical**

If the unit number is not entered, the following output messages will be generated:

The output message starts with:

[O.53108]

M hh:mm:ss xy,ww n[vv] UTL QRY EQD g h i j k l m n o p EOM

M hh:mm:ss xy,ww n[vv] UTL QRY EQD 3 LN MSG:

SYNC x x CRO x

TLI x x x x x x x x x x x x x x x x EOM

For DACS II Non-CEF frames, the next segment describes the CCN hardware:

M hh:mm:ss xy,ww n[vv] UTL QRY EQD TOTAL TSIS tt 5 LN MSG:

11 x 12 x 13 x 14 x 15 x 16 x

21 x 22 x 23 x 24 x 25 x 26 x

31 x 32 x 33 x 34 x 35 x 36 x

41 x 42 x 43 x 44 x 45 x 46 x EOP

M hh:mm:ss xy,ww n[vv] UTL QRY EQD TOTAL TSIS tt 3 LN MSG:

51 x 52 x 53 x 54 x 55 x 56 x

61 x 62 x 63 x 64 x 65 x 66 x EOM

For DACS II CEF frames, the segment describes the ECCN hardware:

M hh:mm:ss xy,ww n[vv] UTL QRY EQD TOTAL ETSIS tt 3 LN MSG:

01 x 02 x 03 x 04 x 05 x 06 x 07 x 08 x

09 x 10 x 11 x 12 x 13 x 14 x 15 x 16 x EOM

The output then continues with segments that contain information about common equipment in the equipped units. If more than 4 units are equipped, the unit equipage output will be divided into multiple segments.

[O.53108]

```
[M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNITS e LN MSG:]
[<data line for common equipment in the first equipped unit>]
[<data line for common equipment in the second equipped unit>]
[<data line for common equipment in the third equipped unit>]
[<data line for common equipment in the fourth equipped unit> EOM]
```

```
[M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNITS e LN MSG:]
[<data line for common equipment in the fifth equipped unit>]
[<data line for common equipment in the sixth equipped unit>]
[<data line for common equipment in the seventh equipped unit>]
[<data line for common equipment in the eighth equipped unit> EOM]
```

```
[M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNITS e LN MSG:]
[<data line for common equipment in the ninth equipped unit>]
[<data line for common equipment in the tenth equipped unit>]
[<data line for common equipment in the eleventh equipped unit>]
[<data line for common equipment in the twelfth equipped unit> EOM]
```

```
[M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNITS e LN MSG:]
[<data line for common equipment in the thirteenth equipped unit>]
[<data line for common equipment in the fourteenth equipped unit>]
[<data line for common equipment in the fifteenth equipped unit>]
[<data line for common equipment in the sixteenth equipped unit> EOM]
```

Data line for a unit equipped as a DS1 FTU:

```
UNIT [q]q UC a FTMI b c d e FC f g h j k m p q[ CCB r s]
```

Data line for a unit equipped as a DS3U:

```
UNIT [q]q UC a FLI b c FMT l m MXR d e f g h j k MIU n o p q u v w[ CCB r s]
```

Data line for a unit equipped as a DSPU:

```
UNIT [q]q UC a DSPI b[ CCB r s]
```

The output message then lists the NPC numbers of equipped NPCs in each FTM/MXR/DSPU. Output messages will be generated successively in ascending order by NPC number. If an FTM/MXR/DSPU has no NPC equipped, the segment for that FTM/MXR/DSPU will not be output.

Output message for equipage of NPCs in a DS1 FTM:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD FTU NPCS [a]aaa-[b]bbb tt 5 LN MSG:
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx EOM
```

Output message for equipage of NPCs in a DS3U MXR:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD DS3U NPCS [a]aaa-[b]bbb tt 5 LN MSG:
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx EOM
```

Output message for equipage of NPCs in a DSPU:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD DSPU NPCS [a]aaa-[b]bbb tt 2 LN MSG:
[z]zzz [z]zzz [z]zzz [z]zzz [z]zzz [z]zzz [z]zzz [z]zzz EOM
```

After the above information is output, the following format will be generated to complete the output response:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD COMPL
```

If the unit number is specified in the input, the following output messages will be generated:

Output message format for an FTU:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD 2 LN MSG:
UNIT [q]q UC a FTMI b c d e FC f g h j k m p q[ CCB r s] EOM
```

The output then continues with up to 4 of the following segment; one for each FTM:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT qq FTU NPCS [a]aaa-[b]bbb tt 5 LN MSG:
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx EOM
```

Output message format for a DS3U:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD 2 LN MSG:
UNIT [q]q UC a FLI b c FMT l m MXR d e f g h j k MIU n o p q u v w[ CCB r s] EOM
```

The output message then continues with up to 7 of the following segment; one for each MXR:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT qq DS3U NPCS [a]aaa-[b]bbb tt 5 LN MSG:
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx EOM
```

Output message format for a DSPU:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT [q]q UC a DSPI b[ CCB r s] EOM

M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT [q]q DSPU NPCS [a]aaa-[b]bbb tt 2 LN MSG:
[z]zzz [z]zzz [z]zzz [z]zzz [z]zzz [z]zzz [z]zzz [z]zzz EOM
```

After the above information is output, the following message will be generated to complete the response:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT [q]q COMPL
```

## Hierarchical

If the unit number is not entered, the following output messages will be generated:

The output message starts with:

[O.53108]

M hh:mm:ss xy,ww n[vv] UTL QRY EQD g h i j k l m n o p EOM

M hh:mm:ss xy,ww n[vv] UTL QRY EQD 3 LN MSG:  
SYNC x x CRO x  
TLI x x x x x x x x x x x x x x EOM

For DACS II Non-CEF frames, the next segment describes the CCN hardware:

M hh:mm:ss xy,ww n[vv] UTL QRY EQD TOTAL TSIS tt 5 LN MSG:  
11 x 12 x 13 x 14 x 15 x 16 x  
21 x 22 x 23 x 24 x 25 x 26 x  
31 x 32 x 33 x 34 x 35 x 36 x  
41 x 42 x 43 x 44 x 45 x 46 x EOP

M hh:mm:ss xy,ww n[vv] UTL QRY EQD TOTAL TSIS tt 3 LN MSG:  
51 x 52 x 53 x 54 x 55 x 56 x  
61 x 62 x 63 x 64 x 65 x 66 x EOM

For DACS II CEF frames, the segment describes the ECCN hardware:

M hh:mm:ss xy,ww n[vv] UTL QRY EQD TOTAL ETSIS tt 3 LN MSG:  
01 x 02 x 03 x 04 x 05 x 06 x 07 x 08 x  
09 x 10 x 11 x 12 x 13 x 14 x 15 x 16 x EOM

The output then continues with segments that contain information about common equipment in the equipped units. If more than 4 units are equipped, the unit equipage output will be divided into multiple segments.

[O.53108]

```
[M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNITS e LN MSG:]
[<data line for common equipment in the first equipped unit>]
[<data line for common equipment in the second equipped unit>]
[<data line for common equipment in the third equipped unit>]
[<data line for common equipment in the fourth equipped unit> EOM]
```

```
[M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNITS e LN MSG:]
[<data line for common equipment in the fifth equipped unit>]
[<data line for common equipment in the sixth equipped unit>]
[<data line for common equipment in the seventh equipped unit>]
[<data line for common equipment in the eighth equipped unit> EOM]
```

```
[M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNITS e LN MSG:]
[<data line for common equipment in the ninth equipped unit>]
[<data line for common equipment in the tenth equipped unit>]
[<data line for common equipment in the eleventh equipped unit>]
[<data line for common equipment in the twelfth equipped unit> EOM]
```

```
[M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNITS e LN MSG:]
[<data line for common equipment in the thirteenth equipped unit>]
[<data line for common equipment in the fourteenth equipped unit>]
[<data line for common equipment in the fifteenth equipped unit>]
[<data line for common equipment in the sixteenth equipped unit> EOM]
```

Data line for a unit equipped as a DS1 FTU:

```
UNIT [q]q UC a FTMI b c d e FC f g h j k m p q[ CCB r s]
```

Data line for a unit equipped as a DS3U:

```
UNIT [q]q UC a FLI b c FMT l m MXR d e f g h j k MIU n o p q u v w[ CCB r s]
```

Data line for a unit equipped as a DSPU:

```
UNIT [q]q UC a DSPI b[ CCB r s]
```



The output message then lists the NPC numbers of equipped NPCs in each FTM/MXR/DSPU. Output messages will be generated successively in ascending order by NPC number. If an FTM/MXR/DSPU has no NPC equipped, the segment for that FTM/MXR/DSPU will not be output.

Output message for equipage of NPCs in a DS1 FTM:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD FTU NPCS uvmnp-uxkqr tt 5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM
```

Output message for equipage of NPCs in a DS3U MXR:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD DS3U NPCS uvmnp-uxkqr tt 5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM
```

Output message for equipage of NPCs in a DSPU:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD DSPU NPCS uvmnp-uxkqr tt 2 LN MSG:
zzzzz zzzzz zzzzz zzzzz zzzzz zzzzz zzzzz zzzzz EOM
```

After the above information is output, the following format will be generated to complete the output response:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD COMPL
```

If the unit number is specified in the input, the following output messages will be generated:

Output message format for an FTU:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD 2 LN MSG:
UNIT [q]q UC a FTMI b c d e FC f g h j k m p q[ CCB r s] EOM
```

The output then continues with up to 4 of the following segment; one for each FTM:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT [q]q FTU NPCS uvmnp-uxkqr tt 5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM
```

Output message format for a DS3U:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD 2 LN MSG:
UNIT [q]q UC a FLI b c FMT l m MXR d e f g h j k MIU n o p q u v w[ CCB r s] EOM
```

The output message then continues with up to seven of the following segment; one for each MXR:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT [q]q DS3U NPCS uvmnp-uxkqr tt 5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM
```

Output message format for a DSPU:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT [q]q UC a DSPI b CCB r s EOM

M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT [q]q DSPU NPCS uvmnp-uxkqr tt 2 LN MSG:
zzzzz zzzzz zzzzz zzzzz zzzzz zzzzz zzzzz zzzzz EOM
```

After the above information is output, the following message will be generated to complete the response:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT [q]q COMPL
```

---

### Denial Message

[O.53108.01]

M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT [q]q COND cc DNY

---

### Autonomous Message

Not applicable.

---

### Explanation Of Parameters

**EQD** - Equipped

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

The UNIT option is specified to query that unit. The UNIT field will be null when the command is used for the entire frame. If the UNIT option is specified, only the information related to the equipment in that unit will be generated.

For the equipped query, each entity in the DACS II frame is represented by a single character variable. This variable can have a value of 1 or 0 indicating the following status:

| Value | EQD or EQPD |
|-------|-------------|
| 1     | equipped    |
| 0     | unequipped  |

The DACS II entities and their status fields are as follows:

|             |                                                                                                                     |
|-------------|---------------------------------------------------------------------------------------------------------------------|
| <b>g</b>    | - Link 1                                                                                                            |
| <b>h</b>    | - Link 2                                                                                                            |
| <b>i</b>    | - Link 3                                                                                                            |
| <b>j</b>    | - Link 4                                                                                                            |
| <b>k</b>    | - Link 5                                                                                                            |
| <b>l</b>    | - Link 6                                                                                                            |
| <b>m</b>    | - XC0 (cross-connect 0)                                                                                             |
| <b>n</b>    | - XC1 (cross-connect 1)                                                                                             |
| <b>o</b>    | - CCNI/CCI 0 (cross-connect network interface 0 for non-CEF frame)<br>(clock and control interface 0 for CEF frame) |
| <b>p</b>    | - CCNI/CCI 1 (cross-connect network interface 1 for non-CEF frame)<br>(clock and control interface 1 for CEF frame) |
| <b>SYNC</b> | - Synchronizer                                                                                                      |

**CRO** - Clock reference oscillator

**TLI** - Timing link interface

The TLI entities are reported in the following order:

**TLI 1, SSP 0, Side 0**  
**TLI 1, SSP 1, Side 0**  
**TLI 2, SSP 0, Side 0**  
**TLI 2, SSP 1, Side 0**  
**TLI 3, SSP 0, Side 0**  
**TLI 3, SSP 1, Side 0**  
**TLI 4, SSP 0, Side 0**  
**TLI 4, SSP 1, Side 0**

**TLI 1, SSP 0, Side 1**  
**TLI 1, SSP 1, Side 1**  
**TLI 2, SSP 0, Side 1**  
**TLI 2, SSP 1, Side 1**  
**TLI 3, SSP 0, Side 1**  
**TLI 3, SSP 1, Side 1**  
**TLI 4, SSP 0, Side 1**  
**TLI 4, SSP 1, Side 1**

**TSIS** - Time slot interchangers                      NonCEF  
**ETSIS** - Expanded time slot interchangers              CEF

**f** - FROM unit (1 through 6)

**t** - TO Unit (1 through 6)

**x** - Equipage indication of an entity or of a side 0 entity if duplicated.

**x** - Equipage indication of a side 1 entity.

**UC** - Unit controller

**FTMI** - Facility terminating module interface

**FC** - Format converter

**FLI** - Facility line interface

**FMT** - Formatter

**MXR** - Multiplexer

**MIU** - Multiple interface unit

**DSPI** - Digital signal processing interface

**[a]aaa** - The first 3- or 4-digit nonhierarchical NPC number of an FTM/MXR/DSPU.  
**[b]bbb** - The last 3- or 4-digit nonhierarchical NPC number of an FTM/MXR/DSPU.

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

| Unit<br>1  | Unit<br>2  | Unit<br>3  | Unit<br>4  | Unit<br>5  | Unit<br>6  |
|------------|------------|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| <b>001</b> | <b>161</b> | <b>321</b> | <b>481</b> | <b>641</b> | <b>801</b> |
| <b>021</b> | <b>181</b> | <b>341</b> | <b>501</b> | <b>661</b> | <b>821</b> |
| <b>041</b> | <b>201</b> | <b>361</b> | <b>521</b> | <b>681</b> | <b>841</b> |
| <b>061</b> | <b>221</b> | <b>381</b> | <b>541</b> | <b>701</b> | <b>861</b> |
| <b>081</b> | <b>241</b> | <b>401</b> | <b>561</b> | <b>721</b> | <b>881</b> |
| <b>101</b> | <b>261</b> | <b>421</b> | <b>581</b> | <b>741</b> | <b>901</b> |
| <b>121</b> | <b>281</b> | <b>441</b> | <b>601</b> | <b>761</b> | <b>921</b> |
| <b>141</b> | <b>301</b> | <b>461</b> | <b>621</b> | <b>781</b> | <b>941</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

| Unit<br>1   | Unit<br>2   | Unit<br>3   | Unit<br>4   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0001</b> | <b>0161</b> | <b>0321</b> | <b>0481</b> |
| <b>0021</b> | <b>0181</b> | <b>0341</b> | <b>0501</b> |
| <b>0041</b> | <b>0201</b> | <b>0361</b> | <b>0521</b> |
| <b>0061</b> | <b>0221</b> | <b>0381</b> | <b>0541</b> |
| <b>0081</b> | <b>0241</b> | <b>0401</b> | <b>0561</b> |
| <b>0101</b> | <b>0261</b> | <b>0421</b> | <b>0581</b> |
| <b>0121</b> | <b>0281</b> | <b>0441</b> | <b>0601</b> |
| <b>0141</b> | <b>0301</b> | <b>0461</b> | <b>0621</b> |
| Unit<br>5   | Unit<br>6   | Unit<br>7   | Unit<br>8   |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0641</b> | <b>0801</b> | <b>0961</b> | <b>1121</b> |
| <b>0661</b> | <b>0821</b> | <b>0981</b> | <b>1141</b> |
| <b>0681</b> | <b>0841</b> | <b>1001</b> | <b>1161</b> |
| <b>0701</b> | <b>0861</b> | <b>1021</b> | <b>1181</b> |
| <b>0721</b> | <b>0881</b> | <b>1041</b> | <b>1201</b> |
| <b>0741</b> | <b>0901</b> | <b>1061</b> | <b>1221</b> |
| <b>0761</b> | <b>0921</b> | <b>1081</b> | <b>1241</b> |
| <b>0781</b> | <b>0941</b> | <b>1101</b> | <b>1261</b> |

| Unit<br>9   | Unit<br>10  | Unit<br>11  | Unit<br>12  |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1281</b> | <b>1441</b> | <b>1601</b> | <b>1761</b> |
| <b>1301</b> | <b>1461</b> | <b>1621</b> | <b>1781</b> |
| <b>1321</b> | <b>1481</b> | <b>1641</b> | <b>1801</b> |
| <b>1341</b> | <b>1501</b> | <b>1661</b> | <b>1821</b> |
| <b>1361</b> | <b>1521</b> | <b>1681</b> | <b>1841</b> |
| <b>1381</b> | <b>1541</b> | <b>1701</b> | <b>1861</b> |
| <b>1401</b> | <b>1561</b> | <b>1721</b> | <b>1881</b> |
| <b>1421</b> | <b>1581</b> | <b>1741</b> | <b>1901</b> |
| <br>        |             |             |             |
| Unit<br>13  | Unit<br>14  | Unit<br>15  | Unit<br>16  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1921</b> | <b>2081</b> | <b>2241</b> | <b>2401</b> |
| <b>1941</b> | <b>2101</b> | <b>2261</b> | <b>2421</b> |
| <b>1961</b> | <b>2121</b> | <b>2281</b> | <b>2441</b> |
| <b>1981</b> | <b>2141</b> | <b>2301</b> | <b>2461</b> |
| <b>2001</b> | <b>2161</b> | <b>2321</b> | <b>2481</b> |
| <b>2021</b> | <b>2181</b> | <b>2341</b> | <b>2501</b> |
| <b>2041</b> | <b>2201</b> | <b>2361</b> | <b>2521</b> |
| <b>2061</b> | <b>2221</b> | <b>2381</b> | <b>2541</b> |

**[z]zzz** - The 3- or 4-digit nonhierarchical DSPU NPC number, the span refers to the odd DSPU circuit pack NPCs, and the total is the number of NPC pairs equipped.

**uvmnp** - The first hierarchical NPC number of an FTM/MXR/DSPU or a hierarchical DSPU NPC number.

**uxkqr** - The last hierarchical NPC number of an FTM/MXR/DSPU

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |



MB, SR, and MJ type numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

| Unit         | Module     | NPC       |
|--------------|------------|-----------|
| <b>01-16</b> | <b>1-8</b> | <b>01</b> |

**tt** - Total number of equipped NPCs

For FTU Entities:

**a** - Status for UC

**b** - Status for FTMI 1 of specified Unit

**c** - Status for FTMI 2 of specified Unit

**d** - Status for FTMI 3 of specified Unit

**e** - Status for FTMI 4 of specified Unit

**f** - Status for FC 01 of specified Unit

**g** - Status for FC 11 of specified Unit

**h** - Status for FC 02 of specified Unit

**j** - Status for FC 12 of specified Unit

**k** - Status for FC 03 of specified Unit

**m** - Status for FC 13 of specified Unit

**p** - Status for FC 04 of specified Unit

**q** - Status for FC 14 of specified Unit

**CCB** - Cross-connect buffer NonCEF

**r** - Status for CCB 0q in CCN 0 for specified Unit q

**s** - Status for CCB 1q in CCN 1 for specified Unit q

For DS3U Entities:

- a** - Status for UC
- l** - Status for FMT 0 of specified DS3 Unit
- m** - Status for FMT 1 of specified DS3 Unit
- b** - Status for service FLI of specified DS3 Unit
- c** - Status for protection FLI of specified DS3 Unit
- d** - Status for protection MXR of specified DS3 Unit
- e** - Status for MXR 1 of specified DS3 Unit
- f** - Status for MXR 2 of specified DS3 Unit
- g** - Status for MXR 3 of specified DS3 Unit
- h** - Status for MXR 4 of specified DS3 Unit
- j** - Status for MXR 5 of specified DS3 Unit
- k** - Status for MXR 6 of specified DS3 Unit
- n** - Status for protection MIU of specified DS3 Unit
- o** - Status for MIU 1 of specified DS3 Unit
- p** - Status for MIU 2 of specified DS3 Unit
- q** - Status for MIU 3 of specified DS3 Unit
- u** - Status for MIU 4 of specified DS3 Unit
- v** - Status for MIU 5 of specified DS3 Unit
- w** - Status for MIU 6 of specified DS3 Unit

For DSPU Entities:

- a** - Status for UC
- b** - Status of DSPI for specified unit

**[x]xxx** - The 3- or 4-digit nonhierarchical FTU/DS3U NPC number ([a]aaa through [b]bbb)

**xxxxx** - Hierarchical FTU/DS3U NPC number (uvmnp through uxkqr)

**cc** - Hexadecimal condition code

**cc** *Explanation*

**02** Subject entity is not equipped

## **UTL,QRY,EQD,UNITS**

### **UTILITIES, EQUIPAGE STATUS**

#### **Explanation Of Command**

This message requests a printout of all units that are equipped.

#### **Command**

[I.53011]

UTL:FRM xy,SEQ ww:QRY,EQD,UNITS!

#### **Completion Message**

[O.53011]

M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT 2 LN MSG:  
aa bb cc dd ee ff gg hh ii jj kk ll mm nn oo pp COMPL

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**EQD** - Request equipage status

**UNITS** - Request information on units

**aa** - Equipage status of Unit number 01  
**bb** - Equipage status of Unit number 02  
**cc** - Equipage status of Unit number 03  
**dd** - Equipage status of Unit number 04  
**ee** - Equipage status of Unit number 05  
**ff** - Equipage status of Unit number 06  
**gg** - Equipage status of Unit number 07  
**hh** - Equipage status of Unit number 08  
**ii** - Equipage status of Unit number 09  
**jj** - Equipage status of Unit number 10  
**kk** - Equipage status of Unit number 11  
**ll** - Equipage status of Unit number 12  
**mm** - Equipage status of Unit number 13  
**nn** - Equipage status of Unit number 14  
**oo** - Equipage status of Unit number 15  
**pp** - Equipage status of Unit number 16

If the unit is equipped, the unit number will be shown in its corresponding position. If the unit is not equipped, the number "00" will be shown.

## UTL,QRY,ERR,SWER,HWER,INT,DATE,TOD,TN

### QUERY SOFTWARE/HARDWARE ERROR RECOVERY

#### Explanation Of Command

This message requests a printout of the contents of the error recovery log file. The log file contains the past history of error recovery events and can be very large. Therefore, the printout can be aborted. Because the printout is of a technical nature, assistance may be necessary for interpretation.

At least one option must be specified in the input command or it will be denied. **Note:** Both the USA date format and international date format are supported by this command. The date format is set by the UTL::DATE,FORMAT,INT command and this message must use the same format. The date format shown in the output for this command will match the current setting. **Note:** Both the USA date format and international date format are supported by this command. The date format is set by the ED-DATE command and this message must use the same format. The date format shown in the output for this command will match the current setting.

#### Command

[I.55011]

UTL:FRM xy,SEQ ww:QRY,ERR,{SWER|HWER}[,{INT mn|[DATE moda[ce]yr,] TOD hrmsc}]\  
[,TN x'dddd][,EVENT x'eeee][,ERCL{HARD|TRANS|APPINT}][,ENTY <entity>]!

## Completion Message

[O.55011]

M hh:mm:ss xy,ww n[vv] UTL QRY ERR SWER mo/da/yr hr:mn:sc 3 LN MSG:  
ENTITY=xxxxxx ERROR=xxxxxx SOURCE=xxxxxx DP=xx  
TN=xxxx PID=xxxxxx RC=xxxxxx MID=xxxx PROC=xxxxxx EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ERR SWER TROUBLE SHOOTING ARGS 3 LN MSG:  
TSARGSxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx  
FAUDTIME xxxxxxxx FACyxxxx FATNxxxx ISPExxxx xxxxxxxx EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ERR SWER STACK TRACE ONE 5 LN MSG:  
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx  
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx  
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx  
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ERR SWER STACK TRACE TWO 5 LN MSG:  
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx  
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx  
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx  
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx COMPL

[O.55012]

M hh:mm:ss xy,ww n[vv] UTL QRY ERR HWER mo/da/yr hr:mn:sc 5 LN MSG:  
HOSTxxxx ENTxxxx ERRCxxxx ERRTxxxx TRANxxxx EVENxxxx  
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx  
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx  
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx COMPL

[O.55013]

M hh:mm:ss xy,ww n[vv] UTL QRY ERR SWER BACKGROUND AUDITS 3 LN MSG:  
MSGTYP=<1000> SOURCE=<2000> ADD1=<400000> ADD2=xx  
DATA=<5000> CHKACT=<6000> CHKCOM=<7000> COMMT0=<8000> COMPL

[O.55014]

M hh:mm:ss xy,ww n[vv] UTL QRY ERR {SWER|HWER} COMPL

## Denial Message

[O.55011.01]

M hh:mm:ss xy,ww n[vv] UTL QRY ERR HWER ENTY <entity> cc DNY

## Autonomous Message

Not applicable.

## **Explanation Of Parameters**

---

**ERR** - Error recovery

Refers to the error recovery log file

**SWER** - Software error

Query the software error log file.

**HWER** - Hardware error

Query the hardware error log file.

**INT** - Time interval

The user may retrieve entries by specifying a past interval of time. This interval may be specified as the last 59 minutes or less or as the interval beginning at a specified date and time of day (see DATE and TOD keywords). If the time but not the optional date is specified, DACS II assumes the present date.

During a system boot the time on the system clock defaults to the time 00:00:00 and the date 12/31/1999 until the clock is initialized. Errors occurring during the boot process consequently are logged as though they occurred in the future when actually they occurred in the past. Because of this behavior a user requesting the errors over one of the intervals mentioned above may experience a large volume of error output listing errors that will (seemingly) occur in the future. These errors actually occurred before the system clock was initialized and should be interpreted as such.

**mn** - minutes (00 to 59)

**DATE** - date

moda[ce]yr

**mo** - Month (01 through 12)

**da** - Day (01 through 31)

**ce** - Century (19 or 20)

**yr** - Year (00 through 99)

**TOD** - time of day

**hrmns** - Hours, minutes, seconds

hr-mn-sc

**hr** - hour (00 through 23)

**mn** - Minutes (00 through 59)

**sc** - seconds (00 through 59)

**TN** - Transaction

**X** - Hexadecimal

**dddd** - Transaction number

**EVENT** - Event

**eeee** - Event number

**ERCL** - Error class

This keyword applies only to queries of the hardware error log file (HWER option). It is not applicable to queries of the software error log file (SWER option) and it returns no data for the software case. The hardware log file may be queried for errors of either the hardware or transient error class.

**HARD** - Hard

Hardware error detected by Error Recovery

**TRANS** - Transient

Transient error detected by Error Recovery

**APPINT** - Application interrupt

Hardware error detected by applications

**ENTY** - Entity (hardware)

This keyword applies only to queries of the hardware error log file (HWER option). It is not applicable to queries of the software error log file (SWER option) and it returns no data for the software case. The hardware log file may be queried for entries related to particular DACS II hardware entities.



**entity** - Entity type

*entity Explanation*

|      |                                       |
|------|---------------------------------------|
| BX   | Bus extender                          |
| CCB  | Cross-connect buffer                  |
| CCNI | Cross-connect network interface       |
| CCI  | Clock and control interface           |
| CI   | Communications interface              |
| CPR  | C-bit processor                       |
| CRO  | Clock reference oscillator            |
| DDC  | Dual digroup circuit                  |
| DISK | Hard disk                             |
| DMB  | Digital multipoint bridge             |
| DSPI | Digital signal processor interface    |
| EBX  | Expanded bus extender                 |
| EMTC | Expanded maintenance circuit          |
| ETSI | Expanded time slot interchanger       |
| FC   | Format converter                      |
| FLI  | Facility line interface               |
| FMT  | Formatter                             |
| FTMI | Facility terminating module interface |
| LINK | Administrative link                   |
| MC   | Main controller                       |
| MIU  | Multiplexer interface unit            |
| MJU  | Multipoint junction unit              |
| MP   | Main processor                        |
| MTC  | Maintenance circuit                   |
| MXR  | Multiplexer                           |
| NPC  | Network processing circuit            |
| SRM  | Subrate multiplexer                   |
| SSC  | Secondary storage controller          |
| SYNC | Synchronizers (DPLL, TB)              |
| TAPE | Tape drive                            |
| TL   | Timing link                           |
| TLI  | Timing link interface                 |
| TSI  | Time slot interchange                 |
| UBX  | Unit bus extender                     |
| UC   | Unit controller                       |

**ENTITY** - Entity

**ERROR** - Error

**SOURCE** - Source

**DP** - Decision point

**PID** - Process identification

**RC** - Return code (of function in which the error occurred)

**MID** - Mbox identification

**PROC** - Process

**TSARGS** - Trouble shooting arguments

**FAUDTIME**  
- Frame audit time

**FACY** - Frame audits cycle number when the error occurred

**FATN** - Frame audits test number when the error occurred

**ISPE** - ISPer LAN error count

**HOST** - Host

**xxxx** - Error identification

Controller (sub-system) on which the error occurred

*xxxx error*

|      |      |
|------|------|
| 0000 | UC1  |
| 0001 | UC2  |
| 0002 | UC3  |
| 0003 | UC4  |
| 0004 | UC5  |
| 0005 | UC6  |
| 0006 | UC7  |
| 0007 | UC8  |
| 0008 | UC9  |
| 0009 | UC10 |
| 000a | UC11 |
| 000b | UC12 |
| 000c | UC13 |
| 000d | UC14 |
| 000e | UC15 |
| 000f | UC16 |
| 0010 | CI   |
| 0011 | MP   |

**ENTT** - Hardware entity for hardware error recovery

| <i>xxxx</i> | <i>Explanation</i> |
|-------------|--------------------|
| 0001        | Unit UC            |
| 0002        | UBX                |
| 0003        | EBX                |
| 0004        | FTMI               |
| 0005        | FC                 |
| 0006        | DDC                |
| 0007        | DSPI               |
| 0008        | DMB                |
| 0009        | CCNI               |
| 000A        | CCB                |
| 000B        | TSI                |
| 000C        | SSC                |
| 000D        | EMTC               |
| 000E        | SYNC               |
| 000F        | TLI                |
| 0010        | Timing Link        |
| 0011        | DISK               |
| 0012        | TAPE               |
| 0013        | MP                 |
| 0014        | CI                 |
| 0015        | LINK               |
| 0016        | NPC                |
| 0017        | MC                 |
| 0018        | MJU                |
| 0019        | SRM                |
| 001A        | DS3U MXR           |
| 001B        | DS3U FLI           |
| 001C        | DS3U FMT           |
| 001D        | DS3U MIU           |
| 001E        | PR                 |
| 001F        | ECCN CCI           |
| 0020        | EBX                |
| 0021        | CCI                |
| 0022        | ETSI               |

**ERRC** - Error class

**xxxx** - Error identification

*xxxx Error*

|      |                                   |
|------|-----------------------------------|
| 0001 | Hardware Error                    |
| 0002 | Transient Error                   |
| 0003 | Power Failure                     |
| 0004 | Error Sanity Bit Error            |
| 0005 | CI Link related errors            |
| 0006 | Sync mode switch                  |
| 0007 | Software error recovery           |
| 0008 | Error not found                   |
| 0009 | Sync booted message from boot     |
| 000A | Sync timing link errors           |
| 000B | Background audits                 |
| 000C | Facility errors                   |
| 000D | Disk log of errors from HARDERR() |
| 000E | Error detected from Frame Audits  |

**ERRT** - Error type

**TRAN** - Transaction number (software)

**EVEN** - Event number (software)

**MSGTYP** - Message type

**ADD1** - Address 1

First address of failed range

**ADD2** - Address 2

Second address of failed range

**DATA** - Data

**CHKACT** - Actual check

**CHKCOM** - Computed check

**COMMT0** - Communication to (lost)

**MEMORY DATA**

- Memory data

READY QUEUE

- Ready queue

PAUSE QUEUE

- Pause queue

LOCAL STACK

- Local stack

STACK TRACE

- Stack trace

**cc** - Hexadecimal condition code

**cc** *Explanation*

**97** Entity can't be addressed in this configuration

## **UTL,QRY,ESR,CCN**

---

### **UTILITY QUERY ERROR SOURCE REGISTER**

#### **Explanation Of Command**

---

This message requests a printout of the error source register for one side of a cross-connect network (CCN).

#### **Command**

---

[I.55401]

UTL:FRM xy,SEQ ww:QRY,ESR,CCN s!

#### **Completion Message**

---

[O.55401]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR CCN s 4 LN MSG:  
MAIN,CCB abcdef ghijkl  
FTMI abcd efgh ijkl mnop qrst uvwx  
TSIS <tsi a> <tsi b> <tsi c> <tsi d> <tsi e> <tsi f> COMPL

#### **Denial Message**

---

[O.55401.01]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR CCN s COND cc DNY

#### **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

**ESR** - Error source register

**CCN** - Cross-connect network

**s** - Cross-connect network side (0 or 1)

**CCB** - Cross-connect buffer

### **abcdef, ghijkl**

- MAIN,CCB error source register information

- a is set to indicate an error has occurred on the synchronizer.
- b is set to indicate a parity error was detected on the address bus.
- c is set to indicate a parity error was detected on the low byte of data.
- d is set to indicate a parity error was detected on the high byte of data.
- e is set to indicate an error was detected on the BSR (Bus Status Register). This error indicates that there was a parity error over the work written in the register.
- f is set to indicate a parity error has occurred on autonomous Switch Enable Circuit - ghijkl represents CCB 1 through 6.

**FTMI** - Facility terminating module interface

### **abcd,efgh,ijkl,mnop,qrst,uvwx**

- FTMI error source register information

- abcd** - FTMI 1 - 4 of Unit 1 (not used)
- efgh** - FTMI 1 - 4 of Unit 2 (not used)
- ijkl** - FTMI 1 - 4 of Unit 3 (not used)
- mnop** - FTMI 1 - 4 of Unit 4 (not used)
- qrst** - FTMI 1 - 4 of Unit 5 (not used)
- uvwx** - FTMI 1 - 4 of Unit 6 (not used)

**TSI** - Time slot interchange

<tsi a>,...,<tsi f> - TSI error source register information.

Each register is six bits long. A bit set indicates the denoted entity is either out of frame or in frame but under alarm state.

- tsi a** - Denotes for TSI 1,1; 1,2; 1,3; 1,4; 1,5; 1,6
- tsi b** - Denotes for TSI 2,1; 2,2; 2,3; 2,4; 2,5; 2,6
- tsi c** - Denotes for TSI 3,1; 3,2; 3,3; 3,4; 3,5; 3,6
- tsi d** - Denotes for TSI 4,1; 4,2; 4,3; 4,4; 4,5; 4,6
- tsi e** - Denotes for TSI 5,1; 5,2; 5,3; 5,4; 5,5; 5,6
- tsi f** - Denotes for TSI 6,1; 6,2; 6,3; 6,4; 6,5; 6,6

**cc** - Hexadecimal condition code

**cc** *Explanation*

**04** Subject entity is out of service



## **UTL, QRY, ESR, ECCN**

### **QUERY ECCN ERROR SOURCE REGISTER**

#### **Explanation Of Command**

This message requests a printout of the contents of the Expanded Cross-Connect Network Error Source Register.

#### **Command**

[I.55411]

**UTL:FRM xy,SEQ ww:QRY,ESR,ECCN s!**

### Completion Message

---

[O.55411]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR ECCN s 4 LN MSG:

CCI wd02 wd01 wd00

aaaa bbbb cccc dddd

eeee ffff gggg hhhh

iiii jjjj kkkk llll

mmmm nnnn oooo pppp {EOM|COMPL}

[M hh:mm:ss xy,ww n[vv] UTL QRY ESR ECCN s e LN MSG:]

[ETSI sqq wd05 wd04 wd03 wd02 wd01 wd00]

[ETSI sqq wd05 wd04 wd03 wd02 wd01 wd00]

[ETSI sqq wd05 wd04 wd03 wd02 wd01 wd00]

[ETSI sqq wd05 wd04 wd03 wd02 wd01 wd00 EOM]

.  
.  
.

[M hh:mm:ss xy,ww n[vv] UTL QRY ESR ECCN s e LN MSG:]

[ETSI sqq wd05 wd04 wd03 wd02 wd01 wd00]

[ETSI sqq wd05 wd04 wd03 wd02 wd01 wd00]

[ETSI sqq wd05 wd04 wd03 wd02 wd01 wd00]

[ETSI sqq wd05 wd04 wd03 wd02 wd01 wd00 {EOM|COMPL}]

### Denial Message

---

[O.55411.01]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR ECCN s COND cc DNY

### Autonomous Message

---

Not applicable.

## Explanation Of Parameters

**ESR** - Error source register

**e** - Number of lines in the segment (2 through 5)

**ECCN** - Expanded cross-connect network

**s** - ECCN side (0 or 1)

**qq** - Unit number (01 through 16)

**ETSI** - Expanded Time Slot Interchanger

The ESR data for a ETSI will be shown only if the ETSI is restored. If no ETSI in the ECCN side is restored, only the ESR data of the CCI will be shown.

**CCI** - Clock and Control Interface

**wd02,**

**wd01,**

**wd00** - Error source register data words for the CCI. Each word is a 4-digit hexadecimal number.

*wdx* *Definition*

wd00 CCI System Status Register

wd01 CCI Status Register

wd02 CCI Bus Status Register

**Note:** wd02 shows the active side; therefore, it is normal to have a non-zero value.

**aaaa,**

**bbbb,**

**cccc,**

**dddd** - CCI register for ETSI alarm information.

This 16 bit register is shown as four 4-bit binary numbers. Each bit represents one ETSI. The ETSIs are arranged by unit number in descending order from left to right. That is, the left-most bit reports alarm information for the unit 16 ETSI, while the right-most bit reports alarm information for the unit 1 ETSI.

**Descending order-->**

**aaaa bbbb cccc dddd**

**^**

**^**

**|**

**Unit 1 ETSI**

**Unit 16 ETSI**

**eeee,**  
**ffff,**  
**gggg,**  
**hhhh** - CCI register for ETSI equipage information

See the explanation given for aaaa-dddd above.

**iiii,**  
**jjjj,**  
**kkkk,**  
**llll** - CCI register for ETSI ready timeout information

See the explanation given for aaaa-dddd above.

**mmmm,**  
**nnnn,**  
**oooo,**  
**pppp** - CCI register for ETSI read high information

See the explanation given for aaaa-dddd above.

**sqq** - Combined ECCN side and unit number

See the definitions of s and qq above.

**wd05,**  
**wd04,**

...,

**wd00** - Error source register data words for the ETSI

Each word is a 4-digit hexadecimal number representing the contents of the error source register listed in the table below.

*wdxx    Definition*

|      |                                     |
|------|-------------------------------------|
| wd00 | Circuit Pack Summary Register       |
| wd01 | Receive Status Register             |
| wd02 | Transmit Status Register            |
| wd03 | Control RAM Status Register         |
| wd04 | Control RAM Port Alarm Register     |
| wd05 | Control RAM Data RAM Alarm Register |

## **UTL, QRY, ESR, MP**

---

### **QUERY ERROR SOURCE REGISTER MAIN PROCESSOR**

#### **Explanation Of Command**

---

This message requests a printout of the 40-bit error source register (ESR) for the main processor (MP).

#### **Command**

---

[I.55111]

**UTL:FRM xy,SEQ ww:QRY,ESR,MP!**

#### **Completion Message**

---

[O.55111]

**M hh:mm:ss xy,ww n[vv] UTL QRY ESR MP 2 LN MSG:  
aa bb cc dd ee[ ff gg hh ii] COMPL**

#### **Denial Message**

---

Not applicable.

#### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**ESR** - Error source register

**MP** - Main Processor

Variables aa, bb, cc, dd, ee, ff, gg, hh, and ii are two digit hexadecimal numbers representing error source registers. The bits in these registers are numbered as shown below:

hex hh = bbbbbb binary  
76543210 Bit numbering

**aa** - Error Source Bit (ESB) group. (hexadecimal)

*aa Function*

|    |                             |
|----|-----------------------------|
| a0 | SYNC 0 power supply ESB     |
| a1 | SYNC 1 power supply ESB     |
| a2 | CCN/ECCN 0 power supply ESB |
| a3 | CCN/ECCN 1 power supply ESB |
| a4 | Spare                       |
| a5 | Spare                       |
| a6 | Spare                       |
| a7 | Spare                       |

**bb** - Error Source Bit (ESB) group. (hexadecimal)

*bb Function*

|    |                                                   |
|----|---------------------------------------------------|
| b0 | UC 01 power supply ESB                            |
| b1 | UC 02 power supply ESB                            |
| b2 | UC 03 power supply ESB                            |
| b3 | UC 04 power supply ESB                            |
| b4 | UC 05 power supply ESB                            |
| b5 | UC 06 power supply ESB                            |
| b6 | UC 07 power supply ESB for CEF, Spare for Non-CEF |
| b7 | Spare                                             |

**cc** - Error Source Bit (ESB) group. (hexadecimal)

| <i>cc</i> | <i>Function</i>                      |
|-----------|--------------------------------------|
| c0        | UC 01 ESB                            |
| c1        | UC 02 ESB                            |
| c2        | UC 03 ESB                            |
| c3        | UC 04 ESB                            |
| c4        | UC 05 ESB                            |
| c5        | UC 06 ESB                            |
| c6        | UC 07 ESB for CEF, Spare for Non-CEF |
| c7        | UC 08 ESB for CEF, Spare for Non-CEF |

**dd** - Error Source Bit (ESB) group. (hexadecimal)

| <i>dd</i> | <i>Function</i>       |
|-----------|-----------------------|
| d0        | MC CPU ESB            |
| d1        | MC CI ESB             |
| d2        | MC SSC ESB            |
| d3        | Spare                 |
| d4        | MC power supply 0 ESB |
| d5        | MC power supply 1 ESB |
| d6        | Spare                 |
| d7        | Spare                 |

**ee** - Error Source Bit (ESB) group. (hexadecimal)

| <i>ee</i> | <i>Function</i>                                                   |
|-----------|-------------------------------------------------------------------|
| e0        | Parity over Low Data Byte                                         |
| e1        | Parity over High Data Byte                                        |
| e2        | Error from Side 0 Bus Extension                                   |
| e3        | Error from Side 1 Bus Extension                                   |
| e4        | ECCN side 0 circuit not present for CEF, Spare for Non-CEF        |
| e5        | ECCN side 1 circuit not present for CEF, Spare for Non-CEF        |
| e6        | Write parity error over low byte data for CEF, Spare for Non-CEF  |
| e7        | Write parity error over high byte data for CEF, Spare for Non-CEF |

The following parameters (ff, gg, hh, ii) apply only to CEF frames:

**ff** - Error Source Bit (ESB) group. (hexadecimal)

*ff      Function*

|    |                        |
|----|------------------------|
| f0 | UC 08 power supply ESB |
| f1 | UC 09 power supply ESB |
| f2 | UC 10 power supply ESB |
| f3 | UC 11 power supply ESB |
| f4 | UC 12 power supply ESB |
| f5 | Spare                  |
| f6 | Spare                  |
| f7 | Spare                  |

**gg** - Error Source Bit (ESB) group. (hexadecimal)

*gg      Function*

|    |                        |
|----|------------------------|
| g0 | UC 13 power supply ESB |
| g1 | UC 14 power supply ESB |
| g2 | UC 15 power supply ESB |
| g3 | UC 16 power supply ESB |
| g4 | Spare                  |
| g5 | Spare                  |
| g6 | Spare                  |
| g7 | Spare                  |

**hh** - Error Source Bit (ESB) group. (hexadecimal)

*hh      Function*

|    |           |
|----|-----------|
| h0 | UC 09 ESB |
| h1 | UC 10 ESB |
| h2 | UC 11 ESB |
| h3 | UC 12 ESB |
| h4 | Spare     |
| h5 | Spare     |
| h6 | Spare     |
| h7 | Spare     |



**ii** - Error Source Bit (ESB) group. (hexadecimal)

| <i>ii</i> | <i>Function</i> |
|-----------|-----------------|
| i0        | UC 13 ESB       |
| i1        | UC 14 ESB       |
| i2        | UC 15 ESB       |
| i3        | UC 16 ESB       |
| i4        | Spare           |
| i5        | Spare           |
| i6        | Spare           |
| i7        | Spare           |

## **UTL, QRY, ESR, NPC, SIDE**

### **UTILITY QUERY ESR FOR FTU OR SUBRATE NPC**

#### **Explanation Of Command**

This message requests a print out of the error source register for a particular network processing circuit (NPC) or Subrate circuit pack. Any attempt to input the command for an NPC in a DS3 unit will be denied. Instead, input the command for the error source register for a multiplexer (MXR), a multiplexer interface unit (MIU), or a facility line interface (FLI).

#### **Command**

##### **Nonhierarchical**

[I.55601]

UTL:FRM xy,SEQ ww:QRY,ESR,NPC [s]abc[,SIDE s]!

##### **Hierarchical**

[I.55601]

UTL:FRM xy,SEQ ww:QRY,ESR,NPC uvmnp[,SIDE s]!

## **Completion Message**

---

### **Nonhierarchical**

---

[O.55601]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR NPC [s]abc 2 LN MSG:  
aa bb cc dd ee ff gg hh ii jj COMPL

**Note:** The above message applies if the side is not specified.

[O.55602]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR NPC [s]abc SIDE s \  
TYPE mnxyz 2 LN MSG:  
defghijk lmnopqrs COMPL

**Note:** The above message applies if the side is specified.

### **Hierarchical**

---

[O.55601]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR NPC uvmnp 2 LN MSG:  
aa bb cc dd ee ff gg hh ii jj COMPL

**Note:** The above message applies if the side is not specified.

[O.55602]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR NPC uvmnp SIDE s \  
TYPE mnxyz 2 LN MSG:  
defghijk lmnopqrs COMPL

**Note:** The above message applies if the side is specified.

## **Denial Message**

---

### **Nonhierarchical**

---

[O.55601.01]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR NPC [s]abc[ SIDE s] COND cc DNY

## Hierarchical

[O.55601.01]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR NPC uvmnp[ SIDE s] COND cc DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**ESR** - Error source register

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

SR and MJ type NPC numbers listed by unit number, Unit Type DP (DSPU)

|                          |                          |                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Unit<br>1                | Unit<br>2                | Unit<br>3                | Unit<br>4                | Unit<br>5                | Unit<br>6                |
| <b>NPC</b><br><b>001</b> | <b>NPC</b><br><b>161</b> | <b>NPC</b><br><b>321</b> | <b>NPC</b><br><b>481</b> | <b>NPC</b><br><b>641</b> | <b>NPC</b><br><b>801</b> |
| <b>021</b>               | <b>181</b>               | <b>341</b>               | <b>501</b>               | <b>661</b>               | <b>821</b>               |
| <b>041</b>               | <b>201</b>               | <b>361</b>               | <b>521</b>               | <b>681</b>               | <b>841</b>               |
| <b>061</b>               | <b>221</b>               | <b>381</b>               | <b>541</b>               | <b>701</b>               | <b>861</b>               |
| <b>081</b>               | <b>241</b>               | <b>401</b>               | <b>561</b>               | <b>721</b>               | <b>881</b>               |
| <b>101</b>               | <b>261</b>               | <b>421</b>               | <b>581</b>               | <b>741</b>               | <b>901</b>               |
| <b>121</b>               | <b>281</b>               | <b>441</b>               | <b>601</b>               | <b>761</b>               | <b>921</b>               |
| <b>141</b>               | <b>301</b>               | <b>461</b>               | <b>621</b>               | <b>781</b>               | <b>941</b>               |

If NPC numbers are expressed in four digits, the valid values are:

SR and MJ type NPC numbers listed by unit number, Unit Type DP (DSPU)

|                           |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|---------------------------|
| Unit<br>1                 | Unit<br>2                 | Unit<br>3                 | Unit<br>4                 |
| <b>NPC</b><br><b>0001</b> | <b>NPC</b><br><b>0161</b> | <b>NPC</b><br><b>0321</b> | <b>NPC</b><br><b>0481</b> |
| <b>0021</b>               | <b>0181</b>               | <b>0341</b>               | <b>0501</b>               |
| <b>0041</b>               | <b>0201</b>               | <b>0361</b>               | <b>0521</b>               |
| <b>0061</b>               | <b>0221</b>               | <b>0381</b>               | <b>0541</b>               |
| <b>0081</b>               | <b>0241</b>               | <b>0401</b>               | <b>0561</b>               |
| <b>0101</b>               | <b>0261</b>               | <b>0421</b>               | <b>0581</b>               |
| <b>0121</b>               | <b>0281</b>               | <b>0441</b>               | <b>0601</b>               |
| <b>0141</b>               | <b>0301</b>               | <b>0461</b>               | <b>0621</b>               |

| Unit<br>5   | Unit<br>6   | Unit<br>7   | Unit<br>8   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0641</b> | <b>0801</b> | <b>0961</b> | <b>1121</b> |
| <b>0661</b> | <b>0821</b> | <b>0981</b> | <b>1141</b> |
| <b>0681</b> | <b>0841</b> | <b>1001</b> | <b>1161</b> |
| <b>0701</b> | <b>0861</b> | <b>1021</b> | <b>1181</b> |
| <b>0721</b> | <b>0881</b> | <b>1041</b> | <b>1201</b> |
| <b>0741</b> | <b>0901</b> | <b>1061</b> | <b>1221</b> |
| <b>0761</b> | <b>0921</b> | <b>1081</b> | <b>1241</b> |
| <b>0781</b> | <b>0941</b> | <b>1101</b> | <b>1261</b> |
| Unit<br>9   | Unit<br>10  | Unit<br>11  | Unit<br>12  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1281</b> | <b>1441</b> | <b>1601</b> | <b>1761</b> |
| <b>1301</b> | <b>1461</b> | <b>1621</b> | <b>1781</b> |
| <b>1321</b> | <b>1481</b> | <b>1641</b> | <b>1801</b> |
| <b>1341</b> | <b>1501</b> | <b>1661</b> | <b>1821</b> |
| <b>1361</b> | <b>1521</b> | <b>1681</b> | <b>1841</b> |
| <b>1381</b> | <b>1541</b> | <b>1701</b> | <b>1861</b> |
| <b>1401</b> | <b>1561</b> | <b>1721</b> | <b>1881</b> |
| <b>1421</b> | <b>1581</b> | <b>1741</b> | <b>1901</b> |
| Unit<br>13  | Unit<br>14  | Unit<br>15  | Unit<br>16  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1921</b> | <b>2081</b> | <b>2241</b> | <b>2401</b> |
| <b>1941</b> | <b>2101</b> | <b>2261</b> | <b>2421</b> |
| <b>1961</b> | <b>2121</b> | <b>2281</b> | <b>2441</b> |
| <b>1981</b> | <b>2141</b> | <b>2301</b> | <b>2461</b> |
| <b>2001</b> | <b>2161</b> | <b>2321</b> | <b>2481</b> |
| <b>2021</b> | <b>2181</b> | <b>2341</b> | <b>2501</b> |
| <b>2041</b> | <b>2201</b> | <b>2361</b> | <b>2521</b> |
| <b>2061</b> | <b>2221</b> | <b>2381</b> | <b>2541</b> |

**SIDE** - Side

**s** - Side number (0 or 1)

Substrate type circuit packs are duplicated; therefore, the side must be specified in order to request the contents of the error source register. The side must not be specified when the NPC is a facility terminating NPC.

**uvmnp** - Hierarchical NPC number

- uv** - Unit number
- m** - Module number
- np** - NPC number within the module

The allowable values are presented below:

DE, DS, and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

SR and MJ NPC numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

| Unit         | Module     | NPC       |
|--------------|------------|-----------|
| <b>01-16</b> | <b>1-8</b> | <b>01</b> |

**Note:** In the error source register listings below, the bits are each shown set individually (bit value = 1). In actual practice the bits may be set in combination. For example a value of 0C for register dd would be interpreted as follows:

X'0C = 00001100 binary

Bits 2 and 3 are set to one. An examination of the bits for register dd shows that X'0C means RAM diagnostic complete and power up ready.

**aa** - Communications Interface ESR 1 (Hexadecimal)

| <i>Bit</i> | <i>Value</i> | <i>Bit definition</i>            |
|------------|--------------|----------------------------------|
| 0          | 1            | Channel controller error         |
| 1          | 1            | Unassigned                       |
| 2          | 1            | Chip identification parity error |
| 3          | 1            | Sync error                       |
| 4          | 1            | Facility processor sanity error  |
| 5          | 1            | Hardware error                   |
| 6          | 1            | Transceiver A error              |
| 7          | 1            | Transceiver B error              |

**bb** - Not used

**cc** - Channel Controller ESR (Hexadecimal)

| <i>Bit</i> | <i>Value</i> | <i>Bit definition</i>               |
|------------|--------------|-------------------------------------|
| 0          | 1            | Exercise indicator                  |
| 1          | 1            | Receive data parity error           |
| 2          | 1            | Transmit data parity error          |
| 3          | 1            | Instruction RAM parity error        |
| 4          | 1            | Configuration register parity error |
| 5          | 1            | Processor error                     |
| 6          | 1            | Sync error                          |
| 7          | 1            | Loss of clock (8 MHz)               |

**dd** - Hardware error data from DDC shared RAM (Hexadecimal)

| <i>Bit</i> | <i>Value</i> | <i>Bit definition</i>   |
|------------|--------------|-------------------------|
| 0          | 1            | Not used                |
| 1          | 1            | Not used                |
| 2          | 1            | RAM diagnostic complete |
| 3          | 1            | Power up ready          |
| 4          | 1            | Not used                |
| 5          | 1            | Not used                |
| 6          | 1            | RAM diagnostic failure  |
| 7          | 1            | ROM checksum failure    |

**ee** - Transceiver A ESR (framer alarms) (Hexadecimal)

| <i>Bit</i> | <i>Value</i> | <i>Bit definition</i>                     |
|------------|--------------|-------------------------------------------|
| 0          | 1            | Device error Remote Frame Alignment       |
| 1          | 1            | Device error Remote Multiframe Alignment  |
| 2          | 1            | Device error Loss of Multiframe Alignment |
| 3          | 1            | Device error Framing Bit Error            |
| 4          | 1            | Not used                                  |
| 5          | 1            | Not used                                  |
| 6          | 1            | Not used                                  |
| 7          | 1            | Not used                                  |

**ff** - Transceiver A ESR (receive sync alarms) (Hexadecimal)

| <i>Bit</i> | <i>Value</i> | <i>Bit definition</i>             |
|------------|--------------|-----------------------------------|
| 0          | 1            | STOMP block device error          |
| 1          | 1            | ALU block device error            |
| 2          | 1            | ALU block device error            |
| 3          | 1            | Data link                         |
| 4          | 1            | Missing receive synchronizer sync |
| 5          | 1            | Signaling RAM parity error        |
| 6          | 1            | PCM RAM parity error              |
| 7          | 1            | E signaling bit error             |



**gg** - Transceiver A ESR (transmitter alarms) (Hexadecimal)

| <i>Bit</i> | <i>Value</i> | <i>Bit definition</i>                        |
|------------|--------------|----------------------------------------------|
| 0          | 1            | Transmit framing bit generator circuit       |
| 1          | 1            | Transmitter SLIP                             |
| 2          | 1            | Internal parity error                        |
| 3          | 1            | Missing transmit sync                        |
| 4          | 1            | Misaligned transmit sync                     |
| 5          | 1            | Transmit SLC®-96 carrier framer device alarm |
| 6          | 1            | Missing SLC 96 carrier Fs superframe sync    |
| 7          | 1            | Misaligned SLC 96 carrier Fs superframe sync |

**hh** - Transceiver A ESR (framer alarms) (Hexadecimal)

Values and explanations are the same as ee

**ii** - Transceiver B ESR (receive sync alarms) (Hexadecimal)

Values and explanations are the same as ff

**jj** - Transceiver B ESR (transmitter alarms) (Hexadecimal)

Values and explanations are the same as gg

**mnxyz** - NPC type

*mnxyz Explanation*

MJ100 Multipoint junction unit  
SR100 Subrate multiplexer unit

The meaning of the bits for types MJ100 and SR100 depends upon the type reported in the output message.

#### TYPE SR100

##### defghijk

- First 8 bits of Subrate circuit pack error source register

| <i>Bit</i> | <i>Value</i> | <i>Fault</i>                                                                                                                   |
|------------|--------------|--------------------------------------------------------------------------------------------------------------------------------|
| d          | 1            | Parallel interface between the DSPU processor and the SR100                                                                    |
| e          | 1            | Data interface between the DSPU backplane and the SR100                                                                        |
| f          | 1            | Data path internal to the SR100 including the Error Correction Device (ECD)                                                    |
| g          | 1            | Data interface between the DSPU backplane and the SR100, or data path internal to the SR100 including the ECD, or PROM5 device |
| h          | 1            | Output block of SR100, or bus feeding the output block                                                                         |
| i          | 1            | Internal data RAM                                                                                                              |
| j          | 1            | Multiplexer state machine, or bus feeding the output block                                                                     |
| k          | 1            | Clock circuitry                                                                                                                |

##### lmnopqrs

- Second 8 bits of Subrate circuit pack error source register

| <i>Bit</i> | <i>Value</i> | <i>Fault</i>              |
|------------|--------------|---------------------------|
| l          | 1            | Built-in self test on ECD |
| m-s        | 0            | Unused                    |

#### TYPE MJ100

##### defghijk

- First 8 bits of Subrate circuit pack error source register

| <i>Bit</i> | <i>Value</i> | <i>Fault</i>                                                                                                                          |
|------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------|
| d          | 1            | Parallel interface Device (PID), or parallel control bus                                                                              |
| e          | 1            | Data interface between the ETSI and the MJ100                                                                                         |
| f          | 1            | ECD data input, or ECD                                                                                                                |
| g          | 1            | MJU control memory parity                                                                                                             |
| h          | 1            | Data path to the output block, or output data interface block, or control code state machine, or FTU time slot parity correction PROM |
| i          | 1            | MJU control signal PROM                                                                                                               |
| j          | 1            | Overwrite state machine, or secondary channel state machine, or ECD control memory                                                    |
| k          | 1            | Clock                                                                                                                                 |

**lmnopqrs**

- Second 8 bits of Substrate circuit pack error source register

| <i>Bit</i> | <i>Value</i> | <i>Fault</i>              |
|------------|--------------|---------------------------|
| l          | 1            | Built-in self test on ECD |
| m-s        | 0            | Unused                    |

**cc** - Hexadecimal condition code

| <b>cc</b> | <i>Explanation</i>                       |
|-----------|------------------------------------------|
| <b>02</b> | Subject entity is not equipped           |
| <b>04</b> | Subject entity is out of service         |
| <b>10</b> | Unit is not equipped                     |
| <b>11</b> | UC is out of service                     |
| <b>14</b> | FTMI is out of service                   |
| <b>26</b> | NPC type error                           |
| <b>37</b> | DSPI out-of-service                      |
| <b>3E</b> | DSPI failed                              |
| <b>0B</b> | Invalid CEPT NPC                         |
| <b>0F</b> | Side specified for non-duplicated NPC    |
| <b>2A</b> | Incorrect pack type in slot              |
| <b>57</b> | SIDE must be specified for substrate NPC |

## **UTL,QRY,ESR,UNIT**

---

### **UTILITY QUERY ERROR SOURCE REGISTER**

#### **Explanation Of Command**

---

This message prints out the contents of the error source register for a facility terminating unit (FTU) or DS3 unit (DS3U).

#### **Command**

---

[I.55501]

**UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q!**

#### **Completion Message**

---

[O.55501]

**M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q aa COMPL**

**Note:** The above message applies to an FTU.

[O.55501]

**M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q bbbb cccc dddd \  
eeee COMPL**

**Note:** The above message applies to a DS3 unit.

#### **Denial Message**

---

[O.55501.01]

**M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q COND cc DNY**

---

### Autonomous Message

Not applicable.

---

### Explanation Of Parameters

**ESR** - Error source register

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**aa** - FTU ESR

*aa Explanation*

A2 Error from FTMI 1

A4 Error from FTMI 2

A5 Error from FTMI 3

A6 Error from FTMI 4

**bbbb** - DS3U Interrupt holding register 0.

Hexadecimal digits are numbered 3210 in left to right order.

*hex*

| digit | Bit  | Value | Definition                |
|-------|------|-------|---------------------------|
| 0     | 0    | 1     | Ram Parity Error          |
| 0     | 1    | 1     | Internal Bus Error        |
| 0     | 2    | 1     | Parallel Bus Parity Error |
| 0     | 3    | 1     | Series Bus Parity Error   |
| 1-3   | 4-15 |       | Unused                    |

**cccc** - DS3U Interrupt holding register 1  
Hexadecimal digits are numbered 3210 in left to right order.

| <i>hex</i><br>digit | Bit | Value | Definition                |
|---------------------|-----|-------|---------------------------|
| 0                   | 0   | 1     | MXR1 Power Loss Interrupt |
| 0                   | 1   | 1     | MXR2 Power Loss Interrupt |
| 0                   | 2   | 1     | MXR3 Power Loss Interrupt |
| 0                   | 3   | 1     | MXR4 Power Loss Interrupt |
| 1                   | 4   | 1     | MXR5 Power Loss Interrupt |
| 1                   | 5   | 1     | MXR6 Power Loss Interrupt |
| 1                   | 6   | 1     | MXRP Power Loss Interrupt |
| 1                   | 7   | 1     | SFLI Power Loss Interrupt |
| 2                   | 8   | 1     | MIU1 Power Loss Interrupt |
| 2                   | 9   | 1     | MIU2 Power Loss Interrupt |
| 2                   | 10  | 1     | MIU3 Power Loss Interrupt |
| 2                   | 11  | 1     | MIU4 Power Loss Interrupt |
| 3                   | 12  | 1     | MIU5 Power Loss Interrupt |
| 3                   | 13  | 1     | MIU6 Power Loss Interrupt |
| 3                   | 14  | 1     | MIUP Power Loss Interrupt |
| 3                   | 15  | 1     | PFLI Power Loss Interrupt |

**dddd** - DS3U Interrupt holding register 2 (hexadecimal)  
Hexadecimal digits are numbered 3210 in left to right order.

| <i>hex</i><br>digit | Bit | Value | Definition                |
|---------------------|-----|-------|---------------------------|
| 0                   | 0   | 1     | MXR1 Interrupt            |
| 0                   | 1   | 1     | MXR2 Interrupt            |
| 0                   | 2   | 1     | MXR3 Interrupt            |
| 0                   | 3   | 1     | MXR4 Interrupt            |
| 1                   | 4   | 1     | MXR5 Interrupt            |
| 1                   | 5   | 1     | MXR6 Interrupt            |
| 1                   | 6   | 1     | MXRP Interrupt            |
| 1                   | 7   | 1     | 0FMT Power Loss Interrupt |
| 2                   | 8   | 1     | MIU1 Interrupt            |
| 2                   | 9   | 1     | MIU2 Interrupt            |
| 2                   | 10  | 1     | MIU3 Interrupt            |
| 2                   | 11  | 1     | MIU4 Interrupt            |
| 3                   | 12  | 1     | MIU5 Interrupt            |
| 3                   | 13  | 1     | MIU6 Interrupt            |
| 3                   | 14  | 1     | MIUP Interrupt            |
| 3                   | 15  | 1     | 1FMT Power Loss Interrupt |

**eeee** - DS3U CI error source register (hexadecimal)  
Hexadecimal digits are numbered 3210 in left to right order.

| <i>hex</i><br>digit | Bit   | Value | Definition           |
|---------------------|-------|-------|----------------------|
| 0                   | 0     | 1     | Link 1 Error         |
| 0                   | 1     | 1     | Link 2 Error         |
| 0                   | 2     | 1     | Link 3 Error         |
| 0                   | 3     | 1     | Link 4 Error         |
| 1                   | 4     | 1     | Link 5 Error         |
| 1                   | 5     | 1     | Link 6 Error         |
| 1                   | 6     | 1     | Link 7 Error         |
| 1                   | 7     | 1     | Link 8 Error         |
| 2                   | 8     | 1     | CI device ID Error   |
| 2                   | 9     | 1     | Address Parity Error |
| 2                   | 10    | 1     | Data Strobe Error    |
| 2                   | 11    | 1     | Loss of Timing Error |
| 3                   | 12-15 |       | Not Used             |

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 02** Subject entity is not equipped
- 04** Subject entity is out of service

## **UTL, QRY, ESR, UNIT, DSPI**

### **QUERY ERROR SOURCE REGISTER**

#### **Explanation Of Command**

This message prints out the contents of the error source register for the digital signal processing interface (DSPI) in a digital signal processing unit (DSPU).

#### **Command**

[I.55531]

UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,DSPI!

#### **Completion Message**

[O.55531]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q DSPI 2 LN MSG:  
SIDE 0: p1p2p3p4p5p6p7p8 SIDE 1: p1p2p3p4p5p6p7p8 COMPL

#### **Denial Message**

[O.55531.01]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q DSPI 2 LN MSG:  
<reason> DNY

#### **Autonomous Message**

Not applicable.



## Explanation Of Parameters

---

**ESR** - Error source register

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**DSPI** - Digital signal processing interface

**p1, . . . , p8**  
- Register data bits

| <i>Bit<br/>Position</i> | <i>Error Interrupt For DSPU<br/>Circuit Packs</i> |
|-------------------------|---------------------------------------------------|
| p1                      | 1                                                 |
| p2                      | 2                                                 |
| p3                      | 3                                                 |
| p4                      | 4                                                 |
| p5                      | 5                                                 |
| p6                      | 6                                                 |
| p7                      | 7                                                 |
| p8                      | 8                                                 |

**reason** - Reason for denial

*reason*

mmmm Explanation  
explanation of error condition code

UNIT [q]q IS NOT EQUIPPED  
UNIT [q]q IS NOT DSPU  
UNIT [q]q IS OUT-OF-SERVICE  
UNIT [q]q IS FAILED

## **UTL,QRY,ESR,UNIT,FC**

### **QUERY ERROR SOURCE REGISTER**

#### **Explanation Of Command**

This message prints out the contents of the error source register for a format converter (FC) in a particular unit.

#### **Command**

[I.55521]

UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,FC sb!

#### **Completion Message**

[O.55521]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q FC sb 2 LN MSG:  
aa bb cc dd ee COMPL

#### **Denial Message**

[O.55521.01]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q FC sb COND cc DNY

#### **Autonomous Message**

Not applicable.

## Explanation Of Parameters

**ESR** - Error source register

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**FC** - Format converter

**s** - Side (0 or 1)

**b** - Format converter number (1 through 4)

**Note:** Data bytes aa through gg must be converted from hexadecimal to binary before the tables below can be used to interpret the data byte values. Each hexdigit converts to 4 binary digits. Bits are numbered from right to left starting from 0 as follows; 76543210.

For example if aa = 01 the binary equivalent of this is 0000 0001. Using the table for aa below this indicates that there is an alarm on the Receive formatter.

| Bit value | Explanation                 |
|-----------|-----------------------------|
| 0         | Indicates NO error or alarm |
| 1         | Indicates an error or alarm |

**aa** - Communications interface (CI) error source register 0 (ESR0) (Hexadecimal)

| <i>Bit</i> | <i>Explanation</i>                                                        |
|------------|---------------------------------------------------------------------------|
| 0          | Receive formatter summary (look at bytes bb, cc, dd , and ee for details) |
| 1          | Transmit formatter summary (look at byte ee for details)                  |
| 2          | Circuit ID error                                                          |
| 3          | Timing error                                                              |
| 4-7        | Not used                                                                  |

**bb** - Receive Formatter (RF) device ESR0 (Hexadecimal)

| <i>Bit</i> | <i>Explanation</i> |
|------------|--------------------|
| 0          | Port 0 alarm       |
| 1          | Port 1 alarm       |
| 2          | Port 2 alarm       |
| 3          | Port 3 alarm       |
| 4          | Port 4 alarm       |
| 5          | Port 5 alarm       |
| 6          | Port 6 alarm       |
| 7          | Port 7 alarm       |

**cc** - RF device ESR1 (Hexadecimal)

| <i>Bit</i> | <i>Explanation</i> |
|------------|--------------------|
| 8          | Port 8 alarm       |
| 9          | Port 9 alarm       |
| 10         | Port 10 alarm      |
| 11         | Port 11 alarm      |
| 12         | Port 12 alarm      |
| 13         | Port 13 alarm      |
| 14         | Port 14 alarm      |
| 15         | Port 15 alarm      |

**dd** - RF device ESR2 (Hexadecimal)

| <i>Bit</i> | <i>Explanation</i> |
|------------|--------------------|
| 0          | Port 17 alarm      |
| 1          | Port 18 alarm      |
| 2          | Port 19 alarm      |
| 3          | Port 20 alarm      |
| 4-7        | Not used           |

**ee** - RF/Transmitter Formatter (TF) device status register (Hexadecimal)

| <i>Bit</i> | <i>Explanation</i>                          |
|------------|---------------------------------------------|
| 0          | Domestic/CEPT mode (Domestic = 0, CEPT = 1) |
| 1          | Network data error                          |
| 2          | Frame sync error                            |
| 3          | Clock error                                 |
| 4          | Microprocessor bus error                    |
| 5-7        | Not used                                    |

**cc** - Hexadecimal condition code

| <i>cc</i> | <i>Explanation</i>               |
|-----------|----------------------------------|
| 04        | Subject entity is out of service |
| 10        | Unit is not equipped             |
| 11        | UC is out of service             |
| 13        | FTMI is not equipped             |
| 14        | FTMI is out of service           |

## **UTL,QRY,ESR,UNIT,FLI**

### **QUERY ERROR SOURCE REGISTER FACILITY LINE INTERFACE**

#### **Explanation Of Command**

This message requests a print out of the error source register (ESR) on one facility line interface (FLI) circuit pack.

#### **Command**

[I.55801]

UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,FLI k!

#### **Completion Message**

[O.55801]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q FLI k 2 LN MSG:  
aa bb ee dd COMPL

#### **Denial Message**

[O.55801.01]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q FLI k COND cc DNY

#### **Autonomous Message**

Not applicable.

## Explanation Of Parameters

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**FLI** - Facility line interface

**k** - The identifier of the FLI:

*k*      *Explanation*

S      Service FLI

P      Protection FLI

**ESR** - Error source register

**aa, bb, ee, dd**

- The error register of the queried circuit pack

Variables aa, bb, ee, and dd are two-digit hexadecimal numbers representing error source registers. The bits in these registers are numbered as shown below:

76543210      Bit numbering

Bit values have the following meaning:

0      No error

1      Error

**aa** - Communication Interface (CI) ESR 1

*bit*      *Explanation*

0      Summary of facility line interface (FLI) ESR 1

1      Summary of FLI ESR 2

2      Chip identification parity error indicator

3      Sync absence or internal counter error indicator

4-7      Not used ( set to zero )

**Example:**

aa = 05 (= 00000101 binary). At least one bit in the FLI ESR 1 is set, and a chip ID error has been identified.

**Note:** In practice, the bits may be set in combination.

**bb** - CI ESR 2

*bit*      *Explanation*

0      Address Parity Error

1-7      Not Used

**ee** - FLI ESR 1

| <i>Bit</i> | <i>Value</i> | <i>Explanation</i>                      |
|------------|--------------|-----------------------------------------|
| 0          | 1            | The LOC alarm for DS-3 # 1 is activated |
| 1          | 1            | The LOC alarm for DS-3 # 2 is activated |
| 2          | 1            | The LOC alarm for DS-3 # 3 is activated |
| 3          | 1            | The LOC alarm for DS-3 # 4 is activated |
| 4          | 1            | The LOC alarm for DS-3 # 5 is activated |
| 5          | 1            | The LOC alarm for DS-3 # 6 is activated |
| 6,7        |              | Not Used                                |

**dd** - FLI ESR 2

| <i>Bit</i> | <i>Value</i> | <i>Explanation</i>                        |
|------------|--------------|-------------------------------------------|
| 0          | 1            | The LOS alarm for DS-3 # 1 is activated   |
| 1          | 1            | The LOS alarm for DS-3 # 2 is activated   |
| 2          | 1            | The LOS alarm for DS-3 # 3 is activated   |
| 3          | 1            | The LOS alarm for DS-3 # 4 is activated   |
| 4          | 1            | The LOS alarm for DS-3 # 5 is activated   |
| 5          | 1            | The LOS alarm for DS-3 # 6 is activated   |
| 6          | 1            | Lock and Key procedure alarm is activated |
| 7          |              | Not Used                                  |

**cc** - Hexadecimal condition code

| <b>cc</b> | <i>Explanation</i>                           |
|-----------|----------------------------------------------|
| <b>10</b> | Unit is not equipped                         |
| <b>11</b> | UC is out of service                         |
| <b>12</b> | UC is in service but failed                  |
| <b>13</b> | UNIT not equipped, not in service, or failed |
| <b>B0</b> | FLI is out of service                        |

## **UTL, QRY, ESR, UNIT, FMT**

### **QUERY ERROR SOURCE REGISTER FORMATTER**

#### **Explanation Of Command**

This message requests a printout of the error source register (ESR) for one formatter (FMT) circuit pack.

#### **Command**

[I.55811]

UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,FMT s!

#### **Completion Message**

[O.55811]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q FMT s 2 LN MSG:  
mm c0 c1 t0 t1 t2 t3 t4 r00 r01 r02 r10 r11 r12 r20 r21 r22 \  
r30 r31 r32 r40 r41 r42 COMPL

#### **Denial Message**

[O.55811.01]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q FMT s COND cc DNY

#### **Autonomous Message**

Not applicable.



## Explanation Of Parameters

---

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**FMT** - Formatter

**s** - Formatter side number

*s*      *Side*

0      Side 0

1      Side 1

**ESR** - Error source register

Variables mm through r42 represent error source registers of the queried circuit pack. Interpretation of the information in these registers requires knowledge of the source code and access to the code.

mm, c0, ...,

**r42** - The error register of the queried circuit pack (2-digit hexadecimal format).

**mm** - Maintenance Register

**c0** - CI Error Source Register 0

**c1** - CI Error Source Register 1

**t0** - Transmit Formatter 0 (TF0) Status Register

**t1, t2, t3, t4**

- TF1, TF2, TF3, TF4 Status Register

**r00, r01, r02**

- Receive Formatter 0 (RF0) Error Source Register 0,1,2

**r10, r11, r12**

- Receive Formatter 1 (RF1) Error Source Register 0,1,2

**r20, r21, r22**

- Receive Formatter 2 (RF2) Error Source Register 0,1,2

**r30, r31, r32**

- Receive Formatter 3 (RF3) Error Source Register 0,1,2

**r40, r41, r42**

- Receive Formatter 4 (RF4) Error Source Register 0,1,2

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 10** Unit is not equipped
- 11** UC is out of service
- 12** UC is in service but failed
- 13** UNIT not equipped, not in service, or failed
- B1** FMT is out of service

## **UTL, QRY, ESR, UNIT, FTMI**

### **QUERY ERROR SOURCE REGISTER FTMI**

#### **Explanation Of Command**

This message requests a printout of the error source register for a facility terminating module interface in a unit.

#### **Command**

[I.55511]

UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,FTMI d!

#### **Completion Message**

[O.55511]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q FTMI d 2 LN MSG:  
aa bb cc dd ee ff gg COMPL

#### **Denial Message**

[O.55511.01]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q FTMI d COND cc DNY

#### **Autonomous Message**

Not applicable.

## Explanation Of Parameters

**ESR** - Error source register

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**FTMI** - Facility terminating module interface

**d** - Facility terminating module interface number (1 through 4)

**Note:** Data bytes aa through gg must be converted from hexadecimal to binary before the tables below can be used to interpret the data byte values. Each hex digit converts to 4 binary digits. Bits are numbered from right to left starting from 0 as follows; 76543210.

For example if aa = 01 the binary equivalent of this is 0000 0001. Using the table for aa below this indicates that there is an alarm on the Communications interface device C.

| Bit value | Explanation                 |
|-----------|-----------------------------|
| 0         | Indicates NO error or alarm |
| 1         | Indicates an error or alarm |

**aa** - FTMI error status register

| <i>Bit</i> | <i>Explanation</i>                                                                                      |
|------------|---------------------------------------------------------------------------------------------------------|
| 0          | Error summary bit from Communications interface device C (CIC)<br>(look at bytes bb and ee for details) |
| 1          | Error summary bit from CIB (look at bytes bc and ff for details)                                        |
| 2          | Error summary bit from CIA (look at bytes dd and gg for details)                                        |
| 3          | Bus error alarm                                                                                         |
| 4-7        | Not used                                                                                                |

**bb** - Communications interface (CI) device A error source register

| <i>Bit</i> | <i>Explanation</i>                    |
|------------|---------------------------------------|
| 0          | Chip identification comparison failed |
| 1          | Address parity error was detected     |
| 2          | Data Strobe signal was not presented  |
| 3          | Loss of timing alarm on the device    |
| 4-7        | Not used                              |

**cc** - CI device B error source register  
*Bit Explanation*

|     |                                       |
|-----|---------------------------------------|
| 0   | Chip identification comparison failed |
| 1   | Address parity error was detected     |
| 2   | Data Strobe signal was not presented  |
| 3   | Loss of timing alarm on the device    |
| 4-7 | Not used                              |

**dd** - CI device C error source register  
*Bit Explanation*

|     |                                       |
|-----|---------------------------------------|
| 0   | Chip identification comparison failed |
| 1   | Address parity error was detected     |
| 2   | Data Strobe signal was not presented  |
| 3   | Loss of timing alarm on the device    |
| 4-7 | Not used                              |

**ee** - CI device B error source register  
*Bit Explanation*

|   |                           |
|---|---------------------------|
| 0 | Error summary bit, Link 1 |
| 1 | Error summary bit, Link 2 |
| 2 | Error summary bit, Link 3 |
| 3 | Error summary bit, Link 4 |
| 4 | Error summary bit, Link 5 |
| 5 | Error summary bit, Link 6 |
| 6 | Error summary bit, Link 7 |
| 7 | Error summary bit, Link 8 |

**ff** - CI device A error source register  
*Bit Explanation*

|   |                           |
|---|---------------------------|
| 0 | Error summary bit, Link 1 |
| 1 | Error summary bit, Link 2 |
| 2 | Error summary bit, Link 3 |
| 3 | Error summary bit, Link 4 |
| 4 | Error summary bit, Link 5 |
| 5 | Error summary bit, Link 6 |
| 6 | Error summary bit, Link 7 |
| 7 | Error summary bit, Link 8 |

**gg** - CI device C error source register

| <i>Bit</i> | <i>Explanation</i>        |
|------------|---------------------------|
| 0          | Error summary bit, Link 1 |
| 1          | Error summary bit, Link 2 |
| 2          | Error summary bit, Link 3 |
| 3          | Error summary bit, Link 4 |
| 4          | Error summary bit, Link 5 |
| 5          | Error summary bit, Link 6 |
| 6          | Error summary bit, Link 7 |
| 7          | Error summary bit, Link 8 |

**cc** - Hexadecimal condition code

| <b>cc</b> | <i>Explanation</i>               |
|-----------|----------------------------------|
| <b>02</b> | Subject entity is not equipped   |
| <b>04</b> | Subject entity is out of service |
| <b>10</b> | Unit is not equipped             |
| <b>11</b> | UC is out of service             |

## **UTL, QRY, ESR, UNIT, MIU**

### **QUERY ERROR SOURCE REGISTER MULTIPLEXER INTERFACE UNIT**

#### **Explanation Of Command**

This message requests a printout of the error source register (ESR) for one Multiplexer Interface Unit (MIU) circuit pack.

#### **Command**

[I.55831]

UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,MIU c!

#### **Completion Message**

[O.55831]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q MIU c 2 LN MSG:  
aa bb COMPL

#### **Denial Message**

[O.55831.01]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q MIU c COND cc DNY

#### **Autonomous Message**

Not applicable.

## Explanation Of Parameters

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**MIU** - Multiplexer interface unit

**c** - The number of the MIU within the unit (1 through 6,P)

**ESR** - Error source register

**aa, bb** - The error register of the queried circuit pack. (Hexadecimal format)

**aa** - EMIU ESR

The two hexadecimal digits of aa or bb may be converted to an eight-bit binary word. The eight bits of this word are interpreted as shown below. Bit numbering is as follows: 76543210 (left to right)

| <i>Bit</i> | <i>Value</i> | <i>Bit definition</i>                   |
|------------|--------------|-----------------------------------------|
| 0          | 1            | EMIU interrupt from Unit Controller     |
| 1-2        |              | Not Used                                |
| 3          | 1            | Reset in progress                       |
| 4          | 1            | The EMIU was reset                      |
| 5          | 1            | Facility threshold exception            |
| 6          | 1            | ESF data link message response received |
| 7          | 1            | Hardware and firmware error             |

**bb** - EMIU error code (set only when bit 7 of the ESR is set)

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                |
|-----------|--------------------------------|
| <b>02</b> | Subject entity is not equipped |
| <b>10</b> | Unit is not equipped           |
| <b>11</b> | UC is out of service           |
| <b>12</b> | UC is in service but failed    |
| <b>BF</b> | MIU is not equipped            |
| <b>CF</b> | MIU is out of service          |



## **UTL, QRY, ESR, UNIT, MXR**

### **QUERY ERROR SOURCE REGISTER MULTIPLEXER**

#### **Explanation Of Command**

This message requests a printout of the error source register (ESR) for one multiplexer (MXR) circuit pack.

#### **Command**

[I.55821]

UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,MXR c!

#### **Completion Message**

[O.55821]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q MXR c 2 LN MSG:  
aa bb dd ee ff COMPL

#### **Denial Message**

[O.55821.01]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q MXR c COND cc DNY

#### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**MXR** - Multiplexer

**c** - The number of the MXR within the unit ( $P, 1 \leq c \leq 6$ )

**ESR** - Error source register

**aa, bb, dd, ee, ff**

- The error register of the queried circuit pack. (Hexadecimal format)

**aa** - MXR ESR 1

| <i>Bit</i> | <i>Value</i> | <i>Bit definition</i>  |
|------------|--------------|------------------------|
| 0          | 1            | DS3 LOS / OOF detected |
| 1          | 1            | CC device #7 Error     |
| 2          | 1            | CC device #6 Error     |
| 3          | 1            | CC device #5 Error     |
| 4          | 1            | CC device #4 Error     |
| 5          | 1            | CC device #3 Error     |
| 6          | 1            | CC device #2 Error     |
| 7          | 1            | CC device #1 Error     |

**bb** - MXR ESR 2

| <i>Bit</i> | <i>Value</i> | <i>Bit definition</i>                       |
|------------|--------------|---------------------------------------------|
| 0          | 1            | Facility Processor detected Hardwared Error |
| 1          | 1            | CC device #14 Error                         |
| 2          | 1            | CC device #13 Error                         |
| 3          | 1            | CC device #12 Error                         |
| 4          | 1            | CC device #11 Error                         |
| 5          | 1            | CC device #10 Error                         |
| 6          | 1            | CC device #9 Error                          |
| 7          | 1            | CC device #8 Error                          |

**dd** - MXR ESR 3

| <i>Bit</i> | <i>Value</i> | <i>Bit definition</i>                      |
|------------|--------------|--------------------------------------------|
| 0          | 1            | Facility Processor detected Facility Error |
| 1          | 1            | MXR Reset                                  |
| 2          | 1            | PIF Bus Parity Error                       |
| 3          | 1            | LOC DS3 Clock from the unselected FLI      |
| 4          | 1            | LOC DS3 N Rail from the unselected FLI     |
| 5          | 1            | LOC DS3 P Rail from the unselected FLI     |
| 6          | 1            | 45 MHz Clock Out of Lock                   |
| 7          |              | Not Used                                   |

**ee** - Hardware summary byte 1

| <i>Bit</i> | <i>Value</i> | <i>Bit definition</i> |
|------------|--------------|-----------------------|
| 0          | 1            | HSCC error            |
| 1          | 1            | Firmware failure      |
| 2          | 1            | PIF I/O error         |
| 3          | 1            | M13 error             |
| 4          | 1            | XCVR error            |
| 5          | 1            | Program error         |
| 6          | 1            | RAM error             |
| 7          | 1            | ROM error             |

**ff** - Hardware summary byte 2

| <i>Bit</i> | <i>Value</i> | <i>Bit definition</i>  |
|------------|--------------|------------------------|
| 0-5        |              | Not Used               |
| 6          | 1            | Logic Cell Array error |
| 7          | 1            | Queue overflow         |

**cc** - Hexadecimal condition code

**cc**    *Explanation*

|           |                              |
|-----------|------------------------------|
| <b>10</b> | Unit is not equipped         |
| <b>11</b> | UC is out of service         |
| <b>12</b> | UC is in service but failed  |
| <b>9B</b> | The MXR is not grown         |
| <b>B2</b> | MXR is out of service        |
| <b>51</b> | The pair MXR is not equipped |

## **UTL, QRY, FPKG**

---

### **QUERY FEATURE PACKAGE**

#### **Explanation Of Command**

---

This message requests a listing of the installed features and the feature package identification code.

#### **Command**

---

[I.51121]

**UTL:FRM xy,SEQ ww:QRY,FPKG!**

### **Completion Message**

---

[O.51121]

M hh:mm:ss xy,ww n[vv] UTL QRY FPKG kkttuuvv DACSIgg.pp r \\  
e LN MSG:  
[BASIC DS1 TERMINATIONS]  
[BASIC CEPT TERMINATIONS]  
[CAPACITY EXPANSION FRAME]  
[BASIC CEPT WITH FRANCE FEATURES] [{EOM|COMPL}]

[M hh:mm:ss xy,ww n[vv] UTL QRY FPKG kkttuuvv DACSIgg.pp r \\  
e LN MSG:]  
[DS3 TERMINATIONS]  
[DIRECT SLC TERMINATIONS]  
[SWITCHED TELECONFERENCING]  
[SUBRATE DATA] [{EOM|COMPL}]

[M hh:mm:ss xy,ww n[vv] UTL QRY FPKG kkttuuvv DACSIgg.pp r \\  
e LN MSG:]  
[ENHANCED DS1 PERFORMANCE MONITORING]  
[DS0/DS1 SERVICE ROLL FEATURE]  
[AT&T SECURITY WARNING MESSAGE]  
[NX64KBIT TEST ACCESS] [{EOM|COMPL}]

[M hh:mm:ss xy,ww n[vv] UTL QRY FPKG kkttuuvv DACSIgg.pp r \\  
e LN MSG:]  
[CLEAR 2MB/S INTERFACE]  
[TS0 TO NON-TS0 XCON]  
[2MB/S ROLL FEATURE] [COMPL]

### **Denial Message**

---

Not applicable.

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

**e** - The number of lines in an output segment (2 through 6)

**FPKG** - Feature Package

Output includes a list of DACS II optional features.

#### **kkttuuvv**

- Feature package identification code

| kkttuuvv | Feature                                       |
|----------|-----------------------------------------------|
| 00000001 | DS1                                           |
| 00000002 | CEPT                                          |
| 00000004 | Subrate                                       |
| 00000008 | Direct SLC® 96 and Series 5 Carrier Interface |
| 00000010 | DS3 Terminations                              |
| 00000020 | Enhanced CEPT                                 |
| 00000040 | Switched Teleconferencing                     |
| 00000080 | CEF                                           |
| 00000100 | Enhanced DS1 Performance Monitoring           |
| 00000200 | DS0/DS1 Roll                                  |
| 00000400 | AT&T Security Warning Message                 |
| 00000800 | Nx64kbit Test Access                          |
| 00001000 | Clear 2MB/s Interface                         |
| 00002000 | TS0 to Non-TS0 Cross-connection               |
| 00004000 | 2MB/S Roll                                    |

In general a feature package identification code is a combination of several individual feature package numbers. To determine the individual features that make up a feature package it is necessary to decode the feature package identification code. This code is an eight digit hexadecimal number. Each hexadecimal number represents a four-bit binary number. Within this binary number each feature is associated with one particular bit. Consequently to determine the feature list from a feature package identification code it is necessary to convert each hexadecimal digit to its binary equivalent and look up the features in the list above. For example the feature package identification code 0000000F can be converted to the following binary number working from left to right one hex digit at a time.

0000 0000 0000 0000 0000 0000 0000 1111

This number contains eight binary numbers each representing one of the hexadecimal numbers in the feature package identification code 0000000F. The rightmost number of the code contains four features since there are four bits set to one. This would be decoded as follows using the table of features above.

|       | binary | hex | Feature                      |
|-------|--------|-----|------------------------------|
|       | 0001   | 1   | DS1                          |
|       | 0010   | 2   | CEPT                         |
|       | 0100   | 4   | Subrate                      |
|       | 1000   | 8   | Direct SLC                   |
| Total | 1111   | F   | (DS1 + CEPT + Subrate + SLC) |

- gg** - DACS II software release number
- pp** - DACS II software release point number
- r** - DACS II software PDI number



## **UTL,QRY,FROM**

---

### **UTILITY QUERY FROM**

#### **Explanation Of Command**

---

This command is used to query the FROM side of a one-way cross-connected circuit or a range of similar circuits. For a SLC® carrier denial message relating to terminating digroups, the bank identification number, the operation mode, and the digroup A network processing circuit (NPC) number are reported. The normal response, if the NPC is a SLC NPC currently under protection, will show the protection digroup NPC number.

#### **Command**

---

##### **Nonhierarchical**

---

[I.52051]

**UTL:FRM xy,SEQ ww:QRY,FROM [s]abcddd[-eee]!**

##### **Hierarchical**

---

[I.52051]

**UTL:FRM xy,SEQ ww:QRY,FROM uvmnpddd[-eee]!**

## Completion Message

---

### Nonhierarchical

---

[O.52051]

M hh:mm:ss xy,ww n[vv] UTL QRY FROM [s]abcddd TYPE mnxyz[ DGP [t]ppp] 2 LN MSG:  
[t]ghijjj ppqqq <tc>[ CUS][ RDC][ UTST {TP kk|TG mmm}][ TLA T] EOM

.  
.  
.

M hh:mm:ss xy,ww n[vv] UTL QRY FROM [s]abceee TYPE mnxyz[ DGP [t]ppp] 2 LN MSG:  
[t]ghijjj ppqqq <tc>[ CUS][ RDC][ UTST {TP kk|TG mmm}][ TLA T] COMPL

[O.52052]

M hh:mm:ss xy,ww n[vv] UTL QRY FROM [s]abcddd TYPE mnxyz 2 LN MSG:  
UASGN[ <tc> DCC][ CUS][ UTST {TP kk|TG mmm}][ cc] {EOM|COMPL}

[O.52053]

M hh:mm:ss xy,ww n[vv] UTL QRY FROM [s]abcddd TYPE mnxyz NOT OCON {EOM|COMPL}

### Hierarchical

---

[O.52051]

M hh:mm:ss xy,ww n[vv] UTL QRY FROM uvmnpddd TYPE mnxyz [DGP wxkqr] 2 LN MSG:  
edhfgjjj ppqqq <tc>[ CUS][ RDC][ UTST {TP kk|TG mmm}][ TLA T] EOM

.  
.  
.

M hh:mm:ss xy,ww n[vv] UTL QRY FROM uvmnpddd TYPE mnxyz [DGP wxkqr] 2 LN MSG:  
edhfgjjj ppqqq <tc>[ CUS][ RDC][ UTST {TP kk|TG mmm}][ TLA T] COMPL

[O.52052]

M hh:mm:ss xy,ww n[vv] UTL QRY FROM uvmnpddd TYPE mnxyz 2 LN MSG:  
UASGN[ <tc> ][DCC][ CUS][ UTST {TP kk|TG mmm}][ cc] {EOM|COMPL}

[O.52053]

M hh:mm:ss xy,ww n[vv] UTL QRY FROM uvmnpddd TYPE mnxyz NOT OCON {EOM|COMPL}

### **Denial Message**

---

### **Nonhierarchical**

---

[O.52051.01]

M hh:mm:ss xy,ww n[vv] UTL QRY FROM [s]abcddd[-eee][ {RT|DL} ffff \  
MD g[g] [t]aaa] [UNEQD] COND cc DNY

[O.52051.02]

M hh:mm:ss xy,ww n[vv] UTL QRY FROM [s]abcddd[-eee] TYPE mnxyz RNGIE DNY

### **Hierarchical**

---

[O.52051.01]

M hh:mm:ss xy,ww n[vv] UTL QRY FROM uvmnpddd[-eee][ {RT|DL} \  
ffff MD g[g] uvjkl] [UNEQD] COND cc DNY

[O.52051.02]

M hh:mm:ss xy,ww n[vv] UTL QRY FROM uvmnpddd[-eee] TYPE mnxyz RNGIE DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**[s]abc** - The 3- or 4-digit non-hierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-002</b> | <b>161-162</b> | <b>321-322</b> | <b>481-482</b> | <b>641-642</b> | <b>801-802</b> |
| <b>021-022</b> | <b>181-182</b> | <b>341-342</b> | <b>501-502</b> | <b>661-662</b> | <b>821-822</b> |
| <b>041-042</b> | <b>201-202</b> | <b>361-362</b> | <b>521-522</b> | <b>681-682</b> | <b>841-842</b> |
| <b>061-062</b> | <b>221-222</b> | <b>381-382</b> | <b>541-542</b> | <b>701-702</b> | <b>861-862</b> |
| <b>081-082</b> | <b>241-242</b> | <b>401-402</b> | <b>561-562</b> | <b>721-722</b> | <b>881-882</b> |
| <b>101-102</b> | <b>261-262</b> | <b>421-422</b> | <b>581-582</b> | <b>741-742</b> | <b>901-902</b> |
| <b>121-122</b> | <b>281-282</b> | <b>441-442</b> | <b>601-602</b> | <b>761-762</b> | <b>921-922</b> |
| <b>141-142</b> | <b>301-302</b> | <b>461-462</b> | <b>621-622</b> | <b>781-782</b> | <b>941-942</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0002</b> | <b>0161-0162</b> | <b>0321-0322</b> | <b>0481-0482</b> |
| <b>0021-0022</b> | <b>0181-0182</b> | <b>0341-0342</b> | <b>0501-0502</b> |
| <b>0041-0042</b> | <b>0201-0202</b> | <b>0361-0362</b> | <b>0521-0522</b> |
| <b>0061-0062</b> | <b>0221-0222</b> | <b>0381-0382</b> | <b>0541-0542</b> |
| <b>0081-0082</b> | <b>0241-0242</b> | <b>0401-0402</b> | <b>0561-0562</b> |
| <b>0101-0102</b> | <b>0261-0262</b> | <b>0421-0422</b> | <b>0581-0582</b> |
| <b>0121-0122</b> | <b>0281-0282</b> | <b>0441-0442</b> | <b>0601-0602</b> |
| <b>0141-0142</b> | <b>0301-0302</b> | <b>0461-0462</b> | <b>0621-0622</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0642</b> | <b>0801-0802</b> | <b>0961-0962</b> | <b>1121-1122</b> |
| <b>0661-0662</b> | <b>0821-0822</b> | <b>0981-0982</b> | <b>1141-1142</b> |
| <b>0681-0682</b> | <b>0841-0842</b> | <b>1001-1002</b> | <b>1161-1161</b> |
| <b>0701-0702</b> | <b>0861-0862</b> | <b>1021-1022</b> | <b>1181-1182</b> |
| <b>0721-0722</b> | <b>0881-0882</b> | <b>1041-1042</b> | <b>1201-1202</b> |
| <b>0741-0742</b> | <b>0901-0902</b> | <b>1061-1062</b> | <b>1221-1222</b> |
| <b>0761-0762</b> | <b>0921-0922</b> | <b>1081-1082</b> | <b>1241-1242</b> |
| <b>0781-0782</b> | <b>0941-0942</b> | <b>1101-1102</b> | <b>1261-1262</b> |

| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1282</b> | <b>1441-1442</b> | <b>1601-1602</b> | <b>1761-1762</b> |
| <b>1301-1302</b> | <b>1461-1462</b> | <b>1621-1622</b> | <b>1781-1782</b> |
| <b>1321-1322</b> | <b>1481-1482</b> | <b>1641-1642</b> | <b>1801-1802</b> |
| <b>1341-1342</b> | <b>1501-1502</b> | <b>1661-1662</b> | <b>1821-1822</b> |
| <b>1361-1362</b> | <b>1521-1522</b> | <b>1681-1682</b> | <b>1841-1842</b> |
| <b>1381-1382</b> | <b>1541-1542</b> | <b>1701-1702</b> | <b>1861-1862</b> |
| <b>1401-1402</b> | <b>1561-1562</b> | <b>1721-1722</b> | <b>1881-1882</b> |
| <b>1421-1422</b> | <b>1581-1582</b> | <b>1741-1742</b> | <b>1901-1902</b> |

| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-1922</b> | <b>2081-2082</b> | <b>2241-2242</b> | <b>2401-2402</b> |
| <b>1941-1942</b> | <b>2101-2102</b> | <b>2261-2262</b> | <b>2421-2422</b> |
| <b>1961-1962</b> | <b>2121-2122</b> | <b>2281-2282</b> | <b>2441-2442</b> |
| <b>1981-1982</b> | <b>2141-2142</b> | <b>2301-2302</b> | <b>2461-2462</b> |
| <b>2001-2002</b> | <b>2161-2162</b> | <b>2321-2322</b> | <b>2481-2482</b> |
| <b>2021-2022</b> | <b>2181-2182</b> | <b>2341-2342</b> | <b>2501-2502</b> |
| <b>2041-2042</b> | <b>2201-2202</b> | <b>2361-2362</b> | <b>2521-2522</b> |
| <b>2061-2062</b> | <b>2221-2222</b> | <b>2381-2382</b> | <b>2541-2542</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

DACS II Non-CEF frames support two virtual NPCs using the three digit NPC numbering scheme. The valid values for Non-CEF frames are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit  
-

**NPC**  
**961-962**

DACS II CEF frames support six virtual NPCs using either a three digit or four digit NPC numbering scheme. If NPC numbers are expressed in three digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit  
-

**NPC**  
**961-966**

If NPC numbers are expressed in four digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**9961-9966**

**uvmnp** - Hierarchical NPC number

**uv** - Unit number

**m** - Module number

**np** - NPC number within the module

The valid values are listed below:

DE and DS type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

MB type NPC numbers listed by unit, module, and NPC Number

Unit Type DP (DSPU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-8</b> | <b>01-02</b> |

TE NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

VI NPC numbers listed by unit, module, and NPC Number

Unit Type VI (Virtual)

|           |          |              |                                 |
|-----------|----------|--------------|---------------------------------|
| Unit      | Module   | NPC          |                                 |
| <b>99</b> | <b>1</b> | <b>01-02</b> | <b>(DACS II Non-CEF frames)</b> |
| <b>99</b> | <b>1</b> | <b>01-06</b> | <b>(DACS II CEF frames)</b>     |

**ddd** - Starting channel number

**eee** - Channel number denoting the end of the range.

The valid values are listed below:

Channel numbers



001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

Conference numbers

001-085 (MB NPC)

001-500 (Virtual NPC)

**TYPE** - Type

**mnxyz** - FROM termination NPC information

**mn** - FROM termination NPC type

Valid values are listed below:

| <b>mn</b> | <i>Explanation</i> |
|-----------|--------------------|
|-----------|--------------------|

|    |                       |
|----|-----------------------|
| DA | Dual digroup ANSI NPC |
|----|-----------------------|

|    |                  |
|----|------------------|
| DE | Dual digroup NPC |
|----|------------------|

|    |                  |
|----|------------------|
| DS | SLC® carrier NPC |
|----|------------------|

|    |               |
|----|---------------|
| TA | DS3U ANSI NPC |
|----|---------------|

|    |                            |
|----|----------------------------|
| TE | DS3U Noninterface unit NPC |
|----|----------------------------|

**xyz** - Multiframe, line and signaling, and channel numbering formats

DA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                        |
|------------|-----------------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                               |
| <b>1*</b>  | NZCS - No zero code suppression                           |
| <b>2*</b>  | B8ZS - Bipolar with 8 zero substitution                   |
| <b>3</b>   | Not assigned                                              |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling             |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling         |
| <b>6</b>   | B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling |
| <b>7-9</b> | Not assigned                                              |

\* Only options 1 and 2 are applicable to DA-type clear-DS1 NPC.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering                |
| <b>1</b>   | D2 channel bank channel numbering                |
| <b>2</b>   | D1D channel bank channel numbering               |
| <b>3-8</b> | Not assigned                                     |
| <b>9</b>   | Unchannelized 193-bit Clear DS1 Cross-connection |

DA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a DA NPC with both a valid framing format (D4, ESF, T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the DA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II FTU, the NPC must be provisioned as NPC type **DE9y9**.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the DA NPC type. If ZBTSI is desired on an NPC in a DACS II FTU, the NPC must be provisioned as a DE NPC type with its **y** option selecting ZBTSI (**DEx3z**).

#### DE-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | Not assigned                                     |
| <b>1</b>   | D4                                               |
| <b>2</b>   | ESF - Voice                                      |
| <b>3</b>   | ESF - Data                                       |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24)    |
| <b>5-7</b> | Not assigned                                     |
| <b>8</b>   | Ericsson Cellular format                         |
| <b>9</b>   | No framing format, transparent (TRSP), clear-DS1 |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                        |
|------------|-----------------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                               |
| <b>1*</b>  | NZCS - No zero code suppression                           |
| <b>2*</b>  | B8ZS - Bipolar with 8 zero substitution                   |
| <b>3†</b>  | ZBTSI - Zero-bit time-slot interchanger                   |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling             |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling         |
| <b>6</b>   | B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling |
| <b>7-9</b> | Not assigned                                              |

\* Only options 1 and 2 are applicable to DE-type clear-DS1 NPC.

† Only valid with ESF (x = 2 or 3)

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                     |
|------------|----------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering      |
| <b>1</b>   | D2 channel bank channel numbering      |
| <b>2</b>   | D1D channel bank channel numbering     |
| <b>3-8</b> | Not assigned                           |
| <b>9</b>   | No channel numbering format, clear-DS1 |

DS-type xyz fields

**x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>               |
|------------|----------------------------------|
| <b>0</b>   | Not assigned                     |
| <b>1</b>   | D4                               |
| <b>2</b>   | ESF - Voice                      |
| <b>3</b>   | Not assigned                     |
| <b>4</b>   | Not assigned                     |
| <b>5</b>   | Not assigned                     |
| <b>6</b>   | SLC® 96 carrier Fs               |
| <b>7</b>   | SLC 5 carrier ESF with data link |
| <b>8-9</b> | Not assigned                     |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                      |
|------------|-----------------------------------------|
| <b>0</b>   | Zero code suppression (ZCS)             |
| <b>1</b>   | No zero code suppression (NZCS)         |
| <b>2</b>   | Bipolar with 8 zero substitution (B8ZS) |
| <b>3-9</b> | Not assigned                            |

**z** - Counting sequence format

| <b>z</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | SLC 96 carrier Mode III D4 counting sequence  |
| <b>1</b>   | SLC 96 carrier Mode III D1D counting sequence |
| <b>2</b>   | SLC 96 carrier Mode I D1D counting sequence   |
| <b>3</b>   | SLC Series 5 carrier D4 counting sequence     |
| <b>4-9</b> | Not assigned                                  |

TA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                |
|------------|---------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                       |
| <b>1*</b>  | NZCS - No zero code suppression                   |
| <b>2</b>   | Not assigned                                      |
| <b>3</b>   | Not assigned                                      |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling     |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling |
| <b>6-9</b> | Not assigned                                      |

\* Only option 1 is applicable to TA-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering                |
| <b>1</b>   | D2 channel bank channel numbering                |
| <b>2</b>   | D1D channel bank channel numbering               |
| <b>3-8</b> | Not assigned                                     |
| <b>9</b>   | Unchannelized 193-bit Clear DS1 Cross-connection |

TA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a TA NPC with both a valid framing format (D4,ESF,T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the TA NPC type. If an unframed Clear DS1

cross-connection is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as NPC type TE919.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the TA NPC type. If ZBTSI is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as a TE NPC type with its **y** option selecting ZBTSI (**TEx3z**).

#### TE-type xyz fields

##### **x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | Not assigned                                     |
| <b>1</b>   | D4                                               |
| <b>2</b>   | ESF - Voice                                      |
| <b>3</b>   | ESF - Data                                       |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24)    |
| <b>5-7</b> | Not assigned                                     |
| <b>8</b>   | Ericsson Cellular format                         |
| <b>9</b>   | No framing format, transparent (TRSP), clear-DS1 |

##### **y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                |
|------------|---------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                       |
| <b>1*</b>  | NZCS - No zero code suppression                   |
| <b>2</b>   | Not assigned                                      |
| <b>3</b>   | Not assigned                                      |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling     |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling |
| <b>6-9</b> | Not assigned                                      |

\* Only option 1 is applicable to TE-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

##### **z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                     |
|------------|----------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering      |
| <b>1</b>   | D2 channel bank channel numbering      |
| <b>2</b>   | D1D channel bank channel numbering     |
| <b>3-8</b> | Not assigned                           |
| <b>9</b>   | No channel numbering format, clear-DS1 |

**DGP** - SLC carrier digroup P (protection)

**[t]ppp** - The 3- or 4-digit nonhierarchical SLC carrier digroup P NPC number.  
Valid values are identical to those for [s]abc.

**[t]ghi** - The 3- or 4-digit nonhierarchical TO NPC number.  
Valid values are identical to those for [s]abc.

**wxkqr** - Hierarchical SLC carrier digroup P NPC number  
Valid values are identical to those for uvmnp

**edhfg** - Hierarchical TO NPC number  
Valid values are identical to those for uvmnp

**jjj, kkk**  
- TO channel numbers  
Valid values are identical to those for ddd.

**ppqqq** - TO termination NPC information

**pp** - TO termination NPC type  
Valid values are listed below:

| <b>pp</b> | <i>Explanation</i>            |
|-----------|-------------------------------|
| DA        | Dual digroup ANSI NPC         |
| DE        | Dual digroup NPC              |
| TA        | DS3U ANSI NPC                 |
| TE        | DS3U Noninterface unit NPC    |
| DS        | SLC® carrier NPC              |
| MB        | Digital multipoint bridge NPC |
| VI        | Virtual NPC                   |

**qqq** - See xyz above for definition and values.

**tc** - Trunk conditioning

Represents the desired cross-connected signaling and insertion word applied when a failure occurs. A trunk conditioning specification consists of a combination of a signaling specification followed by an insertion word specification.

pq is a user specified insertion word. The binary pattern corresponding to the hexadecimal value of pq will be inserted in the downstream direction of a failure on either line.

**tc**

```

          TC(X'--,X'cd), TRB
          TC(X'--,X'cd), IW X'pq
TC(----,mnop), TRB
TC(----,mnop), IW X'pq
TRSP, TRB
TRSP, MUX
TRSP, IW X'pq
TRSP (DMB to DMB)

```

**Note:** Because there is no signal from the FROM direction, ijkl is replaced by ---- in the specification TC(ijkl,mnop) and ab is replaced by -- in the specification TC(X'ab,X'cd).

**Note:** If the channel being connected is an FDL (Facility Data Link), then ddd is 000 and trunk conditioning should be of type TC(----,mnop).

The FDL is not supported by the DS-type NPC.

The following insertion word options are allowed:

*insertion word Explanation*

IW X'pq      The 8-bit pattern corresponding to the hexadecimal value of pq will be inserted in the downstream direction of a failure on either line.

Omitted      Will default to IW X'FF.

**RDC** - Red circuit

**CUS** - Customer  
Customer-controlled circuit

**UTST** - Under test  
Given termination is under test



---

**TP** - Test Port

**kk** - Test port number (01-96)

**TG** - Test Group

**mmm** - Test group number (001-400)

**TLA** - Terminate and leave active

**T** - To  
TO termination is in the terminate and leave state

**DCC** - Disconnect code

**RT** - Remote terminal

**DL** - Digital carrier line unit (DCLU)

**ffff** - RT or DL bank identification (0000 through 9999)

**MD** - Mode

**g[g]** - RT or DL operation mode

| <b>g[g]</b> | <i>Explanation</i>       |
|-------------|--------------------------|
| 1           | SLC 96 carrier Mode I    |
| 3           | SLC 96 carrier Mode III  |
| C           | SLC Series 5 carrier FPC |

**[t]aaa** - Nonhierarchical RT or DL digroup A NPC number with the same valid values as [s]abc.

**UNEQD** - Unequipped

**uvjkl** - Hierarchical RT or DL digroup A NPC number with the same valid values as uvmnp.

**NOT** - Not

**COND** - Condition

**RNGIE** - Range input error

**UASGN** - Unassigned

**cc** - Hexadecimal condition code

**cc Explanation**

|           |                                                                 |
|-----------|-----------------------------------------------------------------|
| <b>E3</b> | <b>One way unassigned channel/NPC in QRY, TO</b>                |
| <b>0B</b> | <b>Invalid CEPT NPC</b>                                         |
| <b>62</b> | <b>Invalid channel number</b>                                   |
| <b>63</b> | <b>NPC is a DGP</b>                                             |
| <b>7F</b> | <b>NPC is not added</b>                                         |
| <b>91</b> | <b>SR NPC was specified - not allowed</b>                       |
| <b>F7</b> | <b>Corresponding NPC for virtual channel is not provisioned</b> |
| <b>B4</b> | <b>NPC is channelized type</b>                                  |
| <b>4F</b> | <b>NPC is not part of a one-way connection</b>                  |

---

## UTL, QRY, FROM

---

### UTILITY QUERY FROM

#### Explanation Of Command

---

This message requests provisioning information for a specific FROM non-channelized network processing circuit of a one-way connection.

#### Command

---

##### Nonhierarchical

---

[I.52071]

UTL:FRM xy,SEQ ww:QRY, FROM [s]abc!

##### Hierarchical

---

[I.52071]

UTL:FRM xy,SEQ ww:QRY, FROM uvmnp!

#### Completion Message

---

##### Nonhierarchical

---

[O.52071]

M hh:mm:ss xy,ww n[vv] UTL QRY FROM [s]abc TYPE mnxyz \\  
2 LN MSG:  
[t]ghi mnxyz AIS[ CUS][ RDC][ UTST][ TLA T] COMPL

### **Hierarchical**

[O.52071]

M hh:mm:ss xy,ww n[vv] UTL QRY FROM uvmnp TYPE mnxyz \  
2 LN MSG:  
wxkqr mnxyz AIS[ CUS][ RDC][ UTST][ TLA T] COMPL

### **Denial Message**

### **Nonhierarchical**

[O.52071.01]

M hh:mm:ss xy,ww n[vv] UTL QRY FROM [s]abc TYPE mnxyz \  
COND cc DNY

### **Hierarchical**

[O.52071.01]

M hh:mm:ss xy,ww n[vv] UTL QRY FROM uvmnp TYPE mnxyz \  
COND cc DNY

### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

**FROM** - From

**[s]abc** - The 3- or 4-digit non-hierarchical non-channelized FROM NPC  
The valid values are listed below:

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1 | Unit<br>2 | Unit<br>3 | Unit<br>4 | Unit<br>5 | Unit<br>6 |
|-----------|-----------|-----------|-----------|-----------|-----------|
| NPC       | NPC       | NPC       | NPC       | NPC       | NPC       |
| 001-160   | 161-320   | 321-480   | 481-640   | 641-800   | 801-960   |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number of non-channelized FROM NPC

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**[t]ghi** - The 3- or 4-digit nonhierarchical number of TO NPC mapped to the FROM NPC

**wxkqr** - Hierarchical number of TO NPC mapped to the FROM NPC

**TYPE** - NPC type

**mnxyz** - NPC type of TO or FROM NPC

**DExyz** - FTU NPC

**TExyz** - DS3U NPC

----- - Unequipped NPC

**AIS** - Alarm indication signal is the idle code for non-channelized digital signal cross-connection.

**CUS** - Customer controlled circuit

**RDC** - Red circuit

**UTST** - Under test

**TLA T** - Terminate and leave activate TO  
Connection is terminated in the TO direction

**cc** - Hexadecimal condition code

**cc** *Explanation*

**15** NPC is unequipped

**0B** Invalid CEPT NPC

**62** Invalid channel number

**B4** NPC is channelized type

**4F** NPC is not part of a one-way connection

## **UTL, QRY, HUBID**

---

### **UTILITY QUERY HUB IDENTIFIER**

#### **Explanation Of Command**

---

This command requests the current setting of the DACS II hub identification code (HUBID).

#### **Command**

---

[I.51501]

UTL:FRM xy,SEQ ww:QRY,HUBID!

#### **Completion Message**

---

[O.51501]

M hh:mm:ss xy,ww n[vv] UTL QRY HUBID 0'ab COMPL

#### **Denial Message**

---

[O.51501.01]

M hh:mm:ss xy,ww n[vv] UTL QRY HUBID 2 LN MSG:  
<Reason> DNY

#### **Autonomous Message**

---

Not applicable.



### **Explanation Of Parameters**

---

**HUBID** - HUB Identification Code

**O'ab** - MJU hub identification code represented in Octal digits (O'00 through O'77)

**reason** - Reason for denial  
Reason

HUBID HAS NOT BEEN SET

## **UTL, QRY, LIST, MACRO, USER**

### **UTILITY QUERY LIST MACRO**

#### **Explanation Of Command**

This command lists the contents of individual or public macros. Only the frame administrator can list all macros, whether owned by an individual or by the public.

#### **Command**

[I.54131]

**UTL:FRM xy,SEQ ww:QRY,LIST,MACRO <macro name>\**  
**[,USER <user id>]!**

### Completion Message

---

[O.54131]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LIST MACRO <macro name>\
[ USER <user id>] e LN MSG:
  l <first 70 characters of lth component command line text>
    <remaining characters of lth component command line text>
      .
      .
      .
  m <first 70 characters of mth component command line text>
    <remaining characters of mth component command line text> {EOM|COMPL}

M hh:mm:ss xy,ww n[vv] UTL QRY LIST MACRO <macro name>\
[ USER <user id>] e LN MSG:
  n <first 70 characters of nth component command line text>
    <remaining characters of nth component command line text>
      .
      .
      .
  s <first 70 characters of sth component command line text>
    <remaining characters of sth component command line text> COMPL
```

[O.54132]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LIST MACRO <macro name>\
[ USER <user id>] NONE COMPL
```

### Denial Message

---

[O.54131.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LIST MACRO <macro name>\
[ USER <user id>] COND cc DNY
```

### Autonomous Message

---

Not applicable.

## Explanation Of Parameters

---

**LIST** - List

**MACRO** - Macro

### **macro name**

- Macro name (seven characters maximum length)

The name of a collection of DACS II commands executed as a group.

A macro name is a string of capitalized alphanumeric characters. There are two type of macros; public and private. A private macros is created by a user in space allocated to the user by the system administrator. Only the user that created it can execute or read (LIST) a private macro. A public macro is created by the system administrator and is executable and readable by all users. A public macro name must start with the letter "P". A private macro name must not start with the letter "P".

**USER** - User

user id - User identifier (two to eight alphabetic characters)

User login identification

A user can query their own macros but only the frame administrator can use the command to query macros owned by other users. The frame administrator must specify the user id to query other users' macros.

**l,  
m,  
n,  
s** - Macro command line numbers

**NONE** - The macro contains no commands

**cc** - Hexadecimal condition code

**cc**    *Explanation*

**62**    File is being accessed  
**64**    File doesn't exist/can't be accessed  
**D0**    Command is Frame administrator (DAX) only.  
**D3**    User does not exist  
**D5**    No user is logged in on the link/vc

## **UTL, QRY, LIST, MAP, USER**

### **UTILITY QUERY LIST MAP**

#### **Explanation Of Command**

This message lists the user's own login on which link and at what time.

Any user can query his/her own login identification but only the frame administrator can query a login owned by another user.

#### **Command**

[I.54101]

UTL:FRM xy,SEQ ww:QRY,LIST,MAP <name>[,USER <user id>]!

#### **Completion Message**

[O.54101]

M hh:mm:ss xy,ww n[vv] UTL QRY LIST MAP <name>[ USER <user id>] \  
STATS ab e LN MSG:  
<TCON ... format ...

.  
.  
.

<TCON ... format ... EOM

M hh:mm:ss xy,ww n[vv] UTL QRY LIST MAP <name>[ USER <user id>] \  
STATS ab e LN MSG:  
<TCON ... format ... >

.  
.  
.

<TCON ... format ... > COMPL

[O.54102]

M hh:mm:ss xy,ww n[vv] UTL QRY LIST MAP <name>\  
[ USER <user id>] NONE COMPL

### Denial Message

---

[O.54101.01]

M hh:mm:ss xy,ww n[vv] UTL QRY LIST MAP <name>\  
[ USER <user id>] COND cc DNY

### Autonomous Message

---

Not applicable.

### Explanation Of Parameters

---

**MAP** - Alternate MAP

**name** - Name of the specified alternate MAP. A MAP name may have up to seven alphanumeric characters. The first character of a MAP name must be an alphabetic character. All alphabetic characters of a MAP name must be capitalized.

**USER** - User

**user id**  
- User login identification is two to eight alphabetic characters.

**STATS** - Status

**ab** - Status field

| <i>ab</i> | <i>Explanation</i> |
|-----------|--------------------|
|-----------|--------------------|

|    |                                 |
|----|---------------------------------|
| 00 | Map is valid (can be activated) |
|----|---------------------------------|

|    |                                                                               |
|----|-------------------------------------------------------------------------------|
| 01 | Map is not valid (contains conflicting circuits and thus cannot be activated) |
|----|-------------------------------------------------------------------------------|

|    |                                                                           |
|----|---------------------------------------------------------------------------|
| D0 | USER <id> is not your login name and your are not the frame administrator |
|----|---------------------------------------------------------------------------|

|    |                          |
|----|--------------------------|
| D3 | USER <id> does not exist |
|----|--------------------------|

|    |                                                  |
|----|--------------------------------------------------|
| D5 | The command cannot be entered without logging in |
|----|--------------------------------------------------|

**e** - Number of lines in the output segment

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 62** File is being accessed
- 64** File doesn't exist/can't be accessed
- D0** Command is Frame administrator (DAX) only.
- D3** User does not exist
- D5** No user is logged in on the link/vc

## **UTL,QRY,LOAD,NPC,TOTAL**

### **UTILITY QUERY, LOAD**

#### **Explanation Of Command**

This Subrate message requests allocation information on one circuit pack or on all circuit packs in the frame.

#### **Command**

#### **Nonhierarchical**

[I.52581]

UTL:FRM xy,SEQ ww:QRY,LOAD,{NPC [s]abc|TOTAL}!

#### **Hierarchical**

[I.52581]

UTL:FRM xy,SEQ ww:QRY,LOAD,{NPC uvmnp|TOTAL}!



## **Completion Message**

---

### **Nonhierarchical**

---

If the NPC is a substrate multiplexer circuit pack:

[O.52581]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LOAD NPC [s]abc TYPE SR100 4 LN MSG:
TOTAL TIME SLOTS: ALLOCATED ttt FREE vvv
ALLOCATED BLOCKS: PEC ppp SEC eee TEST ACCESS SEC aa
                   5CHAN ss 10CHAN qq 20CHAN rr COMPL
```

If the NPC is a multi-junction unit circuit pack:

[O.52582]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LOAD NPC [s]abc TYPE MJ100 4 LN MSG:
TOTAL TIME SLOTS: ALLOCATED ttt FREE vvv
ALLOCATED BLOCKS: PEC ppp SEC eee TEST ACCESS SEC aa
                   RATE24 jjj RATE48 kkk RATE96 lll RATE56 nnn COMPL
```

### **Hierarchical**

---

If the NPC is a substrate multiplexer circuit pack:

[O.52581]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LOAD NPC uvmnp TYPE SR100 4 LN MSG:
TOTAL TIME SLOTS: ALLOCATED ttt FREE vvv
ALLOCATED BLOCKS: PEC ppp SEC eee TEST ACCESS SEC aa
                   5CHAN ss 10CHAN qq 20CHAN rr COMPL
```

If the NPC is a multijunction unit circuit pack:

[O.52582]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LOAD NPC uvmnp TYPE MJ100 4 LN MSG:
TOTAL TIME SLOTS: ALLOCATED ttt FREE vvv
ALLOCATED BLOCKS: PEC ppp SEC eee TEST ACCESS SEC aa
                   RATE24 jjj RATE48 kkk RATE96 lll RATE56 nnn COMPL
```

## Common

---

If the TOTAL keyword is specified:

[O.52583]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LOAD TOTAL 5 LN MSG:
TOTAL TIME SLOTS: ALLOCATED ttttt FREE vvvvv
ALLOCATED BLOCKS: PEC ppppp SEC eeeee TEST ACCESS SEC aa
                    SRM - 5CHAN ssss 10CHAN qqqq 20CHAN rrrr
                    MJU - RATE24 jjjj RATE48 kkkk RATE96 llll RATE56 nnnn COMPL
```

## Denial Message

---

### Nonhierarchical

---

[O.52581.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LOAD {NPC [s]abc|TOTAL} 2 LN MSG:
<reason> DNY
```

### Hierarchical

---

[O.52581.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LOAD {NPC uvmpn|TOTAL} 2 LN MSG:
<reason> DNY
```

## Autonomous Message

---

Not applicable.

## Explanation Of Parameters

---

**LOAD** - Request information concerning resource utilization in substrate circuit packs. Current valid circuit packs are:

SR100 substrate multiplexer  
MJ100 multijunction unit

**NPC** - Network processing circuit

Request resource information for the substrate circuit pack specified.

**[s]abc** - The 3- or 4-digit nonhierarchical Substrate or Multijunction NPC number

If NPC numbers are expressed in three digits, the valid values are:

SR and MJ type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1  | Unit<br>2  | Unit<br>3  | Unit<br>4  | Unit<br>5  | Unit<br>6  |
|------------|------------|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| <b>001</b> | <b>161</b> | <b>321</b> | <b>481</b> | <b>641</b> | <b>801</b> |
| <b>021</b> | <b>181</b> | <b>341</b> | <b>501</b> | <b>661</b> | <b>821</b> |
| <b>041</b> | <b>201</b> | <b>361</b> | <b>521</b> | <b>681</b> | <b>841</b> |
| <b>061</b> | <b>221</b> | <b>381</b> | <b>541</b> | <b>701</b> | <b>861</b> |
| <b>081</b> | <b>241</b> | <b>401</b> | <b>561</b> | <b>721</b> | <b>881</b> |
| <b>101</b> | <b>261</b> | <b>421</b> | <b>581</b> | <b>741</b> | <b>901</b> |
| <b>121</b> | <b>281</b> | <b>441</b> | <b>601</b> | <b>761</b> | <b>921</b> |
| <b>141</b> | <b>301</b> | <b>461</b> | <b>621</b> | <b>781</b> | <b>941</b> |

If NPC numbers are expressed in four digits, the valid values are:

SR and MJ type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1   | Unit<br>2   | Unit<br>3   | Unit<br>4   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0001</b> | <b>0161</b> | <b>0321</b> | <b>0481</b> |
| <b>0021</b> | <b>0181</b> | <b>0341</b> | <b>0501</b> |
| <b>0041</b> | <b>0201</b> | <b>0361</b> | <b>0521</b> |
| <b>0061</b> | <b>0221</b> | <b>0381</b> | <b>0541</b> |
| <b>0081</b> | <b>0241</b> | <b>0401</b> | <b>0561</b> |
| <b>0101</b> | <b>0261</b> | <b>0421</b> | <b>0581</b> |
| <b>0121</b> | <b>0281</b> | <b>0441</b> | <b>0601</b> |
| <b>0141</b> | <b>0301</b> | <b>0461</b> | <b>0621</b> |
| Unit<br>5   | Unit<br>6   | Unit<br>7   | Unit<br>8   |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0641</b> | <b>0801</b> | <b>0961</b> | <b>1121</b> |
| <b>0661</b> | <b>0821</b> | <b>0981</b> | <b>1141</b> |
| <b>0681</b> | <b>0841</b> | <b>1001</b> | <b>1161</b> |
| <b>0701</b> | <b>0861</b> | <b>1021</b> | <b>1181</b> |
| <b>0721</b> | <b>0881</b> | <b>1041</b> | <b>1201</b> |
| <b>0741</b> | <b>0901</b> | <b>1061</b> | <b>1221</b> |
| <b>0761</b> | <b>0921</b> | <b>1081</b> | <b>1241</b> |
| <b>0781</b> | <b>0941</b> | <b>1101</b> | <b>1261</b> |

| Unit<br>9   | Unit<br>10  | Unit<br>11  | Unit<br>12  |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1281</b> | <b>1441</b> | <b>1601</b> | <b>1761</b> |
| <b>1301</b> | <b>1461</b> | <b>1621</b> | <b>1781</b> |
| <b>1321</b> | <b>1481</b> | <b>1641</b> | <b>1801</b> |
| <b>1341</b> | <b>1501</b> | <b>1661</b> | <b>1821</b> |
| <b>1361</b> | <b>1521</b> | <b>1681</b> | <b>1841</b> |
| <b>1381</b> | <b>1541</b> | <b>1701</b> | <b>1861</b> |
| <b>1401</b> | <b>1561</b> | <b>1721</b> | <b>1881</b> |
| <b>1421</b> | <b>1581</b> | <b>1741</b> | <b>1901</b> |
| Unit<br>13  | Unit<br>14  | Unit<br>15  | Unit<br>16  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1921</b> | <b>2081</b> | <b>2241</b> | <b>2401</b> |
| <b>1941</b> | <b>2101</b> | <b>2261</b> | <b>2421</b> |
| <b>1961</b> | <b>2121</b> | <b>2281</b> | <b>2441</b> |
| <b>1981</b> | <b>2141</b> | <b>2301</b> | <b>2461</b> |
| <b>2001</b> | <b>2161</b> | <b>2321</b> | <b>2481</b> |
| <b>2021</b> | <b>2181</b> | <b>2341</b> | <b>2501</b> |
| <b>2041</b> | <b>2201</b> | <b>2361</b> | <b>2521</b> |
| <b>2061</b> | <b>2221</b> | <b>2381</b> | <b>2541</b> |

**uvmnp** - Hierarchical NPC number

Valid values are listed below:

SR and MJ NPC numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

| Unit         | Module     | NPC       |
|--------------|------------|-----------|
| <b>01-16</b> | <b>1-8</b> | <b>01</b> |

**TOTAL** - Request summarized resource information for all substrate circuit packs.

**MJU** - Multipoint junction unit

#### **ALLOCATED**

- Allocated time slots

**ttt** - Number of time slots allocated

**FREE** - Free time slots

**vvv** - Number of free time slots

**PEC** - Parity channel error correctors

**ppp** - Number of parity channel error correctors

**SEC** - Subrate error correctors

**eee** - Number of subrate error correctors allocated to cross-connected circuits

**aa** - Number of subrate error correctors allocated to test access

**ss** - Number of 5-channel subrate multiplexer channels

**qq** - Number of 10-channel subrate multiplexer channels

**rr** - Number of 20-channel subrate multiplexer channels

**jjj** - Number of 2.4-kb/s Multipoint Junction Unit (MJU) channels

**kkk** - Number of 4.8-kb/s MJU channels

**lll** - Number of 9.6-kb/s MJU channels

**nnn** - Number of 56-kb/s MJU channels

**ttttt** - Total number of time slots allocated on the frame

**vvvvv** - Total number of free time slots allocated on the frame

**ppppp** - Total number of parity channel error correctors on the frame

**eeeee** - Total number of subrate error correctors allocated to cross-connected circuits on the frame

**ssss** - Total number of 5-channel subrate multiplexer channels on the frame

**qqqq** - Total number of 10-channel subrate multiplexer channels on the frame

**rrrr** - Total number of 20-channel subrate multiplexer channels on the frame

**jjjj** - Total number of 2.4-kb/s MJU channels on the frame

**kkkk** - Total number of 4.8-kb/s MJU channels on the frame

**llll** - Total number of 9.6-kb/s MJU channels on the frame

**nnnn** - Total number of 56-kb/s MJU channels on the frame

**reason** - Reason for denial

*reason*

NO SRM OR MJU TYPE NPC IS EQUIPPED

UNIT qq IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED

NPC [s]abc IS NOT SRM OR MJU TYPE

## **UTL, QRY, LOG, ALL**

### **QUERY LOG**

#### **Explanation Of Command**

This command is used to query DACS II for the link, user identifier, and date and time of login of the user issuing the command. The frame administrator uses the **ALL** keyword to list information on all current users.

Output from this command is sent only to the link on which the command was input.

#### **Command**

[I.54011]

**UTL:FRM xy,SEQ ww:QRY,LOG[,ALL]!**

#### **Completion Message**

[O.54011]

**M hh:mm:ss xy,ww n[vv] UTL QRY LOG e LN MSG:  
LINK j[mm] USER <user id> {DATE mm/dd/yy FORMAT MDY|\  
DATE dd/mm/yy FORMAT DMY} TOD hh:mm:ss COMPL**

[O.54011]

M hh:mm:ss xy,ww n[vv] UTL QRY LOG ALL e LN MSG:  
LINK j[mm] USER <user id> {DATE mm/dd/yy FORMAT MDY|\  
DATE dd/mm/yy FORMAT DMY} TOD hh:mm:ss

.  
.  
.

LINK j[mm] USER <user id> {DATE mm/dd/yy FORMAT MDY|\  
DATE dd/mm/yy FORMAT DMY} TOD hh:mm:ss {EOM|COMPL}

M hh:mm:ss xy,ww n[vv] UTL QRY LOG ALL e LN MSG:  
LINK j[mm] USER <user id> {DATE mm/dd/yy FORMAT MDY|\  
DATE dd/mm/yy FORMAT DMY} TOD hh:mm:ss

.  
.  
.

LINK j[mm] USER <user id> {DATE mm/dd/yy FORMAT MDY|\  
DATE dd/mm/yy FORMAT DMY} TOD hh:mm:ss COMPL

[O.54012]

M hh:mm:ss xx,yy n[vv] UTL QRY LOG[ ALL] NONE COMPL

### **Denial Message**

---

[O.54011.01]

M hh:mm:ss xy,ww n[vv] UTL QRY LOG[ ALL] COND cc DNY

### **Autonomous Message**

---

Not applicable.



### **Explanation Of Parameters**

---

**LOG** - Login

**ALL** - All

All user logins. Used only by the frame administrator.

**USER** - User

**user id**

- User identifier (two to eight alphabetic characters)

User login identification

**LINK** - Link

**j [mm]** - The link number the user is logged onto

**j** - Administrative link number (5 or 6)

**mm** - Virtual link number (1 through 16)

**DATE** - Date

mm/dd/yy,dd/mm/yy

- Date, current

mm Month number (01 through 12)

dd Day number (01 through 31)

yy Year number (00 through 99)

**FORMAT** - Date format

**MDY** - Month/Day/Year format

**DMY** - Day/Month/Year format

**TOD** - Time of day

**hh:mm:ss**

- Time of day in hours, minutes, and seconds

hh Hours number (00 through 23)

mm Minutes number (00 through 59)

ss Seconds number (00 through 59)

**NONE** - No user is logged in to DACS II

**cc** - Hexadecimal condition code

**cc** *Explanation*

**D0** Command is Frame administrator (DAX) only.

**D3** User does not exist

**D7** Cannot execute privileged command

**DF** Command and protocol are inconsistent

## **UTL,QRY,LPBK,NPC**

---

### **UTILITY QUERY LOOPBACK**

#### **Explanation Of Command**

---

This message is used to request a report indicating which Network Processing Circuits are in the loopback state. For DA and TA type NPCs, loopbacks being executed by far-end equipment as well as loopbacks being executed by DACS II are reported.

#### **Command**

---

##### **Nonhierarchical**

---

[l.53131]

UTL:FRM xy,SEQ ww:QRY,LPBK,NPC [s]abc[-[t]def]!

##### **Hierarchical**

---

[l.53131]

UTL:FRM xy,SEQ ww:QRY,LPBK,NPC uvmnp[-wxkqr]!

## Completion Message

---

### Nonhierarchical

---

[O.53133]

M hh:mm:ss xy,ww n[vv] UTL QRY LPBK NPC [u]ghi-[u]jkl TOT nnn\  
[ COND cc] 5 LN MSG:  
spp spp spp spp spp spp spp [spp spp spp]  
spp spp spp spp spp spp spp [spp spp spp]  
spp spp spp spp spp spp spp [spp spp spp]  
spp spp spp spp spp spp spp [spp spp spp] EOM

|     |     |     |
|-----|-----|-----|
| ... | ... | ... |
| ... | ... | ... |
| ... | ... | ... |

M hh:mm:ss xy,ww n[vv] UTL QRY LPBK NPC [v]mno-[v]pqr TOT nnn\  
[ COND cc] 5 LN MSG:  
spp spp spp spp spp spp spp [spp spp spp]  
spp spp spp spp spp spp spp [spp spp spp]  
spp spp spp spp spp spp spp [spp spp spp]  
spp spp spp spp spp spp spp [spp spp spp] EOM

M hh:mm:ss xy,ww n[vv] UTL QRY LPBK NPC [s]abc-[t]def[ COND cc] COMPL

[O.53134]

M hh:mm:ss xy,ww n[vv] UTL QRY LPBK NPC [s]abc spp COMPL

### **Hierarchical**

---

[O.53133]

M hh:mm:ss xy,ww n[vv] UTL QRY LPBK NPC uvmaa-uvmbb TOT nnn\  
[ COND cc] 5 LN MSG:  
spp spp spp spp spp spp spp [spp spp spp]  
spp spp spp spp spp spp spp [spp spp spp]  
spp spp spp spp spp spp spp [spp spp spp]  
spp spp spp spp spp spp spp [spp spp spp] EOM

...                      ...                      ...  
...                      ...                      ...  
...                      ...                      ...

M hh:mm:ss xy,ww n[vv] UTL QRY LPBK NPC wxkaa-wxkbb TOT nnn\  
[ COND cc] 5 LN MSG:  
spp spp spp spp spp spp spp [spp spp spp]  
spp spp spp spp spp spp spp [spp spp spp]  
spp spp spp spp spp spp spp [spp spp spp]  
spp spp spp spp spp spp spp [spp spp spp] EOM

M hh:mm:ss xy,ww n[vv] UTL QRY LPBK NPC uvmnp-wxkqr [ COND cc] COMPL

[O.53134]

M hh:mm:ss xy,ww n[vv] UTL QRY LPBK NPC uvmnp spp COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.53131.01]

M hh:mm:ss xy,ww n[vv] UTL QRY LPBK NPC [s]abc[-[t]def] \  
COND cc DNY

#### **Hierarchical**

---

[O.53131.01]

M hh:mm:ss xy,ww n[vv] UTL QRY LPBK NPC uvmnp[-wxkqr] \  
COND cc DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**LPBK** - Loopback

**NPC** - Network processing circuit

If an NPC range is specified in the input command, the following floating window rules apply:

1. Unequipped NPCs within the requested range will be skipped.
2. If a CEPT gap is within the requested range, the NPCs in the gap will be skipped.
3. If an endpoint of the requested range is in a CEPT gap, then the NPCs in the portion of the range which is in the gap will be denied.

**TOT** - Total

**nnn** - Total Number of NPCs in the module that are in the loopback state

**COND** - Condition

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number, start of NPC range

**[t]def** - The 3- or 4-digit nonhierarchical NPC number, end of NPC range

**[u]ghi** - Lowest numbered NPC in the FTM that contains NPC [s]abc

**[v]mno** - Lowest numbered NPC in the FTM that contains NPC [t]def

**[u]jkl** - Highest numbered NPC in the FTM that contains NPC [s]abc

**[v]pqr** - Highest numbered NPC in the FTM that contains NPC [t]def

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number for beginning of NPC range

**wxkqr** - Hierarchical NPC number for end of NPC range

**uv, wx** - Unit number

**m, k** - Module number

**np, qr** - NPC number within the module

The valid values are:

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |



TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

The range of NPCs in the denial messages will be given either as module or unit boundaries depending upon the reason for the denial.

**uvmaa** - Lowest numbered NPC in the FTM that contains NPC uvmnp  
The parameter value for NPC aa is in the first position, first line of the message.

**uvmbb** - Highest numbered NPC in the FTM that contains NPC uvmnp  
The parameter value for NPC bb is just before EOM or COMPL.

**wxkaa** - Lowest numbered NPC in the FTM that contains NPC wxkqr

**wxkbb** - Highest numbered NPC in the FTM that contains NPC wxkqr

**spp** - ANSI Loopback Type

Values of "spp" are presented in NPC order, grouped within messages by Facility Terminating Module (FTM). For FTM's in Facility Terminating Units, each row of output contains 10 values. For FTM's in DS3 Units, each row of output contains 7 values.

*s*      *Explanation*

\*      Loopback enabled  
' '      Loopback disabled

*pp*      *Explanation*

NP      ANSI Near-end payload loopback active  
FP      ANSI Far-end payload loopback active  
FL      ANSI Far-end line loopback active  
NN      No loopback active  
00      NPC not specified in input range command  
--      NPC not equipped, or non-ANSI type

**[u]ghi**      - Lowest numbered NPC in the FTM that contains NPC [s]abc  
**[v]mno**      - Lowest numbered NPC in the FTM that contains NPC [t]def

**[u]jkl**      - Highest numbered NPC in the FTM that contains NPC [s]abc  
**[v]pqr**      - Highest numbered NPC in the FTM that contains NPC [t]def

The range of NPCs in the denial messages will be given either as module or unit

boundaries depending upon the reason for the denial. **cc** - Hexadecimal condition code

**cc** *Explanation*

**10** Unit is not equipped  
**13** FTMI is not equipped  
**25** FTMI type error  
**0B** Invalid CEPT NPC

## **UTL,QRY,MACRO,ATTR,USER,ALL**

### **QUERY MACRO ATTRIBUTES**

#### **Explanation Of Command**

This message queries the macro attributes associated with all personally-owned macros and any public macros. The frame administrator can query ALL the macro attributes of any macro, public or private.

For each macro, DACS II lists:

- The macro name
- The user who owns the macro
- The number of parameters in the macro
- The language used
- The amount of space used by the macro.

#### **Command**

[I.54211]

**UTL:FRM xy,SEQ ww:QRY,MACRO,ATTR[, {USER <user id>|ALL}]!**

### **Completion Message**

---

[O.54211]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MACRO ATTR\  
[ {USER <user id>|ALL}] e LN MSG:  
USER <user id> MACRO <name> PRMTR tt LANG {P|M} SPACE nnn \  
NPCAD {E|X|H}
```

```
.....  
.....  
USER <user id> MACRO <name> PRMTR tt LANG {P|M} SPACE nnn \  
NPCAD {E|X|H} {EOM|COMPL}
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY MACRO ATTR\  
[ {USER <user id>|ALL}] e LN MSG:  
USER <user id> MACRO <name> PRMTR tt LANG {P|M} SPACE nnn \  
NPCAD {E|X|H}
```

```
.....  
USER <user id> MACRO <name> PRMTR tt LANG {P|M} SPACE nnn \  
NPCAD {E|X|H} COMPL
```

[O.54212]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MACRO ATTR\  
[ {USER <user id>|ALL}] NONE COMPL
```

### **Denial Message**

---

[O.54211.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MACRO ATTR\  
[ {USER <user id>|ALL}] COND cc DNY
```

### **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

---

**ATTR** - Attributes

**user id**

- Query the specified user's private and public macro attributes

User login identification is two to eight alphabetic characters.

**ALL** - Query all private and public macros' attributes (used by the frame administrator only)

**MACRO** - The keyword used to indicate that the "name" shown is a macro name. A Macro is a collection of DACS II commands that can be executed as a group.

**name** - The macro name which is a string of uppercase alphanumeric characters from one to seven characters long. The first character must be an alphabetic character.

A macro name start with the character "P" is a public macro. Only the frame administrator is allowed to create a public macro.

**LANG** - Language

**M** - Man-Machine Language

**P** - Program Documentation Standard

**PRMTR** - Macro parameters

**tt** - Total number of macro parameters used (01 - 10)

**SPACE** - Macro space

**nnn** - Macro space used by the macro in percentage of the user macro space allocation (000 - 100)

**NPCAD** - NPC addressing scheme

**E** - 3-digit extended (nonhierarchical) NPC addressing scheme

**X** - 4-digit extended (nonhierarchical) NPC addressing scheme

**H** - Hierarchical NPC addressing scheme, i.e., address the NPC by using the unit number, module number, and NPC number within the module.

**cc** - Hexadecimal condition code

**cc** *Explanation*

**D0** Command is Frame administrator (DAX) only.

**D3** User does not exist

**D5** No user is logged in on the link/vc

## **UTL, QRY, MACRO, MAP, SPACE, USER, ALL**

### **UTILITY QUERY MACRO/MAP SPACE**

#### **Explanation Of Command**

This message requests the amount of space that the user's alternate map or macro requires and how much space is still available.

The frame administrator can query for all user's macro or alternate map space requirements and for the system space requirements and allocation.

In summary, a user can query his/her own alternate map or macro space, but only the frame administrator can use the ALL and SYSTEM options of the command to query space owned by another user.

#### **Command**

[I.54221]

**UTL:FRM xy,SEQ ww:QRY,{MACRO|MAP},SPACE[, {USER <user id>|ALL|\SYSTEM}]!**

#### **Completion Message**

[O.54221]

**M hh:mm:ss xy,ww n[vv] UTL QRY {MACRO|MAP} SPACE nnn \  
AVAIL xxx  
[ {USER <user id>|SYSTEM}] COMPL**

[O.54222]

```
M hh:mm:ss  xy,ww n[vv] UTL QRY {MACRO|MAP} SPACE nnn ALL  \
e LN MSG:
USER <user id> AVAIL xxx
USER <user id> AVAIL xxx
      ....      ...
USER <user id> AVAIL xxx  {EOM|COMPL}
```

```
M hh:mm:ss  xy,ww n[vv] UTL QRY {MACRO|MAP} SPACE nnn ALL  \
e LN MSG:
USER <user id> AVAIL xxx
USER <user id> AVAIL xxx
      ....      ...
USER <user id> AVAIL xxx  {EOM|COMPL}
```

```
      ....      ...
      ....      ...
M hh:mm:ss  xy,ww n[vv] UTL QRY {MACRO|MAP} SPACE nnn ALL  \
e LN MSG:
USER <user id> AVAIL xxx
USER <user id> AVAIL xxx
      ....      ...
USER <user id> AVAIL xxx  COMPL
```

### Denial Message

---

[O.54221.01]

```
M hh:mm:ss  xy,ww n[vv] UTL QRY {MACRO|MAP} SPACE\
[ {USER <user id>|ALL|SYSTEM}] COND cc  DNY
```

### Autonomous Message

---

Not applicable.



### **Explanation Of Parameters**

---

**MAP** - Map

**MACRO** - Macro

**USER** - User

**user id**

- query the specified user's macro/map space status.

User login identification is two to eight alphabetic characters.

**ALL** - query all users' macro/map space status.

**SYSTEM** - query the system macro/map space status.

**nnn** - percentage of macro/map space allocated (000 to 100%). If user ID or ALL option is used, nnn is the user macro/map space allocation percentage. If SYSTEM option is used, nnn is the percentage of system macro/map space allocated, and it is always 100 (i.e., 100%).

**AVAIL** - Percentage of space available.

**xxx** - percentage of user or system macro/map space still available (000 to 100%)

**cc** - Hexadecimal condition code

**cc** *Explanation*

**D0** Command is Frame administrator (DAX) only.

**D3** User does not exist

**D5** No user is logged in on the link/vc

## **UTL, QRY, MACRO, USER**

### **UTILITY QUERY MACRO**

#### **Explanation Of Command**

This command is used to query the attributes of a macro including the language, the number of macro parameters, the amount of user macro space used by the macro, the NPC addressing scheme used by the macro, and the total number of macro command lines in the macro.

A user can query his or her own macros but only the frame administrator can query macros owned by another user.

#### **Command**

[I.54121]

UTL:FRM xy,SEQ ww:QRY,MACRO <name>[,USER <user id>]!

#### **Completion Message**

[O.54121]

M hh:mm:ss xy,ww n[vv] UTL QRY MACRO <name>[ USER <user id>] 2 LN MSG:  
LANG {M|P} PRMTR jk SPACE sss NPCAD {E|X|H} TOTAL <line total> COMPL

#### **Denial Message**

[O.54121.01]

M hh:mm:ss xy,ww n[vv] UTL QRY MACRO <name>[ USER <user id>] COND cc DNY

#### **Autonomous Message**

Not applicable.

## **Explanation Of Parameters**

---

### **MACRO** - Macro

**name** - The macro name (seven characters maximum length)

The name of a collection of DACS II commands executed as a group.

A macro name is a string of capitalized alphanumeric characters. There are two type of macros; public and private. A private macros is created by a user in space allocated to the user by the system administrator. Only the user that created it can execute or read (LIST) a private macro. A public macro is created by the system administrator and is executable and readable by all users. A public macro name must start with the letter "P". A private macro name must not start with the letter "P".

### **USER** - User

#### **user id**

- User identifier (two to eight alphabetic characters)

User login identification

A user can query their own macros but only the frame administrator can use the command to query macros owned by other users. The frame administrator must specify the user id to query other users' macros.

### **LANG** - Language

**M** - Man-Machine language

**P** - Program documentation standards

### **PRMTR** - Parameter

**jk** - Total number of macro parameters used (01 through 10)

### **SPACE** - Space

**sss** - User macro or map space allocation (000 through 100 percent)

Variable sss represents the space allocated to user macros or maps for the entire DACS II system as a percentage of the system macro space.

### **TOTAL** - Total

#### **line total**

- Total number of macro command lines in the macro

### **NPCAD** - NPC addressing scheme

- E** - 3-digit extended (non-hierarchical) NPC addressing scheme
- X** - 4-digit extended (non-hierarchical) NPC addressing scheme
- H** - Hierarchical NPC addressing scheme, that is, address the NPC by using the unit number, module number, and NPC number within the module.
- cc** - Hexadecimal condition code

**cc**    *Explanation*

- 64**    File doesn't exist/can't be accessed
- D0**    Command is Frame administrator (DAX) only.
- D3**    User does not exist
- D5**    No user is logged in on the link/vc

## **UTL, QRY, MAP, ATTR, ALL, USER, MAPNM**

### **UTILITY QUERY MAP**

#### **Explanation Of Command**

This message requests the following information on the user's alternate map:

- User identifier
- Status of the map
- Amount of space used by the map.

Only the administrator can request information on other users or request ALL alternate maps on the DACS II frame.

#### **Command**

[I.54201]

UTL:FRM xy,SEQ ww:QRY,MAP,ATTR[, {ALL|USER <user id>|MAPNM <name>}]!

**Note:** Only the DACS II frame administrator can use the ALL option.

## Completion Message

---

[O.54201]

M hh:mm:ss xy,ww n[vv] UTL QRY MAP,ATTR[ {ALL|USER <user id>|\  
MAPNM <name>}}] e LN MSG:  
USER <user id> MAP <name> STATS bb SPACE nnn

.  
.  
.

USER <user id> MAP <name> STATS bb SPACE nnn EOM

M hh:mm:ss xy,ww n[vv] UTL QRY MAP,ATTR[ {ALL|USER <user id>|\  
MAPNM <name>}}] e LN MSG:  
USER <user id> MAP <name> STATS bb SPACE nnn

.  
.  
.

USER <user id> MAP <name> STATS bb SPACE nnn COMPL

[O.54202]

M hh:mm:ss xy,ww n[vv] UTL QRY MAP,ATTR[ {ALL|USER <user id>|\  
MAPNM <name>}}] NONE COMPL

## Denial Message

---

[O.54201.01]

M hh:mm:ss xy,ww n[vv] UTL QRY MAP,ATTR[ {ALL|USER <user id>|\  
MAPNM <name>}}] COND cc DNY

## Autonomous Message

---

Not applicable.

## Explanation Of Parameters

---

MAP - Map

ATTR - Attributes

**ALL** - All

**USER** - User

**user id**

- User identifier

User login identification is two to eight alphabetic characters.

The USER option is available to a regular DACS II user to query his or her own maps. Only the administrator can use the option to request information on other users or ALL alternate maps on the DACS II frame.

**MAPNM** - Alternate map name

**name** - The alternate map name which is a string of uppercase alphanumeric characters from one to seven characters long. The first character must be an alphabetic character.

A user can query his or her own maps but only the frame administrator can use the command to query maps owned by other users. To do so, the optional USER field must be entered.

**STATS** - Status of the alternate map

**bb** - Map Status

bb Explanation

00 Map is valid (can be activated)

01 Map is not valid (it contains conflicting circuits and therefore cannot be activated)

**SPACE** - Alternate map space

**nnn** - Alternate Map space used by the alternate map in percentage of the user alternate map space allocation (000 - 100)

**cc** - Hexadecimal condition code

**cc** *Explanation*

**64** File doesn't exist/can't be accessed

**D0** Command is Frame administrator (DAX) only.

**D3** User does not exist

**D5** No user is logged in on the link/vc

## **UTL, QRY, MARK**

---

### **UTILITY QUERY MARKINGS**

#### **Explanation Of Command**

---

This command is used to query a single or a range of network processing circuits (NPCs) in a facility terminating unit, a digital signal processing unit, or a DS3 unit. This command can be aborted before the entire printout has completed.

When specifying a single NPC, the channel and conference or non-channelized circuit with markings (red circuit and/or customer controlled) are listed. The output for a channel or conference with markings is skipped. When the circuit does not contain markings, the output message indicates this with the NONE keyword. A denial message is printed when the NPC is unequipped.

When specifying a range of NPCs, the channel and conference or non-channelized circuit with markings (red circuit and/or customer controlled) are listed for each equipped NPC. The output for an unequipped or unmarked channel and conference or non-channelized NPC is skipped.

For a non-channelized with markings, a one-line output message segment is printed for each NPC marked, but the channel or conference information is not printed.

For a disconnected channel which was previously used in both two-way and one-way cross-connections, the CUS marking is retained for the two-way cross-connection in output by default.

Outputs are skipped under the following conditions:

- NPC is unequipped
- Channel or conference point has no **RDC** or **CUS** marking.



---

## Command

---

---

### Nonhierarchical

---

[I.52201]

UTL:FRM xy,SEQ ww:QRY,MARK [s]abc[-[t]def]!

---

### Hierarchical

---

[I.52201]

UTL:FRM xy,SEQ ww:QRY,MARK uvmnp[-wxkqr]!

---

## Completion Message

---

---

### Nonhierarchical

---

[O.52201]

M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abc TYPE mnxyz [FDL t000ccrrr] xx e LN MSG:  
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr EOM

.  
.  
.

[M hh:mm:ss xy,ww n[vv] UTL QRY MARK [t]jkl TYPE mn9y9 tccrrr EOM]

.  
.  
.

M hh:mm:ss xy,ww n[vv] UTL QRY MARK [t]def TYPE mnxyz [FDL t000ccrrr] xx e LN MSG:  
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abc[-[t]def] COMPL

**Note:** The format above assumes all 24 DS0 channels in each NPC are marked.  
Only NPCs with markings are listed.

## Hierarchical

---

[O.52201]

M hh:mm:ss xy,ww n[vv] UTL QRY MARK uvmnp TYPE mnxyz  
[FDL t000ccrrr] xx e LN MSG:  
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr EOM

.  
.  
.

[M hh:mm:ss xy,ww n[vv] UTL QRY MARK edhfg TYPE mnxyz  
tccrrr EOM]

.  
.  
.

M hh:mm:ss xy,ww n[vv] UTL QRY MARK wxkqr TYPE mnxyz [FDL t000ccrrr] xx e LN MSG:  
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY MARK uvmnp[-wxkqr] COMPL

**Note:** The format above assumes all 24 DS0 channels in each NPC are marked.  
Only NPCs with markings are listed.

## Denial Message

---

### Nonhierarchical

---

[O.52201.01]

M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abc TYPE ----- UEQD DNY

[O.52201.02]

M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abc[-[t]def] TYPE mnxyz COND cc DNY

## Hierarchical

---

[O.52201.01]

M hh:mm:ss xy,ww n[vv] UTL QRY MARK uvmnp TYPE ----- UEQD DNY

[O.52201.02]

M hh:mm:ss xy,ww n[vv] UTL QRY MARK uvmnp[-wxkqr] TYPE mnxyz COND cc DNY

### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

**MARK** - Mark

One of the following:

**RDC** - Red circuit

**CUS** - Customer-controlled circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number denoting beginning of range specification

**[t]def** - The 3- or 4-digit nonhierarchical NPC number denoting end of range specification

The valid values are listed below:

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |

| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-002</b> | <b>161-162</b> | <b>321-322</b> | <b>481-482</b> | <b>641-642</b> | <b>801-802</b> |
| <b>021-022</b> | <b>181-182</b> | <b>341-342</b> | <b>501-502</b> | <b>661-662</b> | <b>821-822</b> |
| <b>041-042</b> | <b>201-202</b> | <b>361-362</b> | <b>521-522</b> | <b>681-682</b> | <b>841-842</b> |
| <b>061-062</b> | <b>221-222</b> | <b>381-382</b> | <b>541-542</b> | <b>701-702</b> | <b>861-862</b> |
| <b>081-082</b> | <b>241-242</b> | <b>401-402</b> | <b>561-562</b> | <b>721-722</b> | <b>881-882</b> |
| <b>101-102</b> | <b>261-262</b> | <b>421-422</b> | <b>581-582</b> | <b>741-742</b> | <b>901-902</b> |
| <b>121-122</b> | <b>281-282</b> | <b>441-442</b> | <b>601-602</b> | <b>761-762</b> | <b>921-922</b> |
| <b>141-142</b> | <b>301-302</b> | <b>461-462</b> | <b>621-622</b> | <b>781-782</b> | <b>941-942</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0002</b> | <b>0161-0162</b> | <b>0321-0322</b> | <b>0481-0482</b> |
| <b>0021-0022</b> | <b>0181-0182</b> | <b>0341-0342</b> | <b>0501-0502</b> |
| <b>0041-0042</b> | <b>0201-0202</b> | <b>0361-0362</b> | <b>0521-0522</b> |
| <b>0061-0062</b> | <b>0221-0222</b> | <b>0381-0382</b> | <b>0541-0542</b> |
| <b>0081-0082</b> | <b>0241-0242</b> | <b>0401-0402</b> | <b>0561-0562</b> |
| <b>0101-0102</b> | <b>0261-0262</b> | <b>0421-0422</b> | <b>0581-0582</b> |
| <b>0121-0122</b> | <b>0281-0282</b> | <b>0441-0442</b> | <b>0601-0602</b> |
| <b>0141-0142</b> | <b>0301-0302</b> | <b>0461-0462</b> | <b>0621-0622</b> |

| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0642</b> | <b>0801-0802</b> | <b>0961-0962</b> | <b>1121-1122</b> |
| <b>0661-0662</b> | <b>0821-0822</b> | <b>0981-0982</b> | <b>1141-1142</b> |
| <b>0681-0682</b> | <b>0841-0842</b> | <b>1001-1002</b> | <b>1161-1161</b> |
| <b>0701-0702</b> | <b>0861-0862</b> | <b>1021-1022</b> | <b>1181-1182</b> |
| <b>0721-0722</b> | <b>0881-0882</b> | <b>1041-1042</b> | <b>1201-1202</b> |
| <b>0741-0742</b> | <b>0901-0902</b> | <b>1061-1062</b> | <b>1221-1222</b> |
| <b>0761-0762</b> | <b>0921-0922</b> | <b>1081-1082</b> | <b>1241-1242</b> |
| <b>0781-0782</b> | <b>0941-0942</b> | <b>1101-1102</b> | <b>1261-1262</b> |
| <br>Unit<br>9    | <br>Unit<br>10   | <br>Unit<br>11   | <br>Unit<br>12   |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1282</b> | <b>1441-1442</b> | <b>1601-1602</b> | <b>1761-1762</b> |
| <b>1301-1302</b> | <b>1461-1462</b> | <b>1621-1622</b> | <b>1781-1782</b> |
| <b>1321-1322</b> | <b>1481-1482</b> | <b>1641-1642</b> | <b>1801-1802</b> |
| <b>1341-1342</b> | <b>1501-1502</b> | <b>1661-1662</b> | <b>1821-1822</b> |
| <b>1361-1362</b> | <b>1521-1522</b> | <b>1681-1682</b> | <b>1841-1842</b> |
| <b>1381-1382</b> | <b>1541-1542</b> | <b>1701-1702</b> | <b>1861-1862</b> |
| <b>1401-1402</b> | <b>1561-1562</b> | <b>1721-1722</b> | <b>1881-1882</b> |
| <b>1421-1422</b> | <b>1581-1582</b> | <b>1741-1742</b> | <b>1901-1902</b> |
| <br>Unit<br>13   | <br>Unit<br>14   | <br>Unit<br>15   | <br>Unit<br>16   |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-1922</b> | <b>2081-2082</b> | <b>2241-2242</b> | <b>2401-2402</b> |
| <b>1941-1942</b> | <b>2101-2102</b> | <b>2261-2262</b> | <b>2421-2422</b> |
| <b>1961-1962</b> | <b>2121-2122</b> | <b>2281-2282</b> | <b>2441-2442</b> |
| <b>1981-1982</b> | <b>2141-2142</b> | <b>2301-2302</b> | <b>2461-2462</b> |
| <b>2001-2002</b> | <b>2161-2162</b> | <b>2321-2322</b> | <b>2481-2482</b> |
| <b>2021-2022</b> | <b>2181-2182</b> | <b>2341-2342</b> | <b>2501-2502</b> |
| <b>2041-2042</b> | <b>2201-2202</b> | <b>2361-2362</b> | <b>2521-2522</b> |
| <b>2061-2062</b> | <b>2221-2222</b> | <b>2381-2382</b> | <b>2541-2542</b> |

DACS II Non-CEF frames support two virtual NPCs using the three digit NPC numbering scheme. The valid values for Non-CEF frames are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**961-962**

DACS II CEF frames support six virtual NPCs using either a three digit or four digit NPC numbering scheme. If NPC numbers are expressed in three digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**961-966**

If NPC numbers are expressed in four digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**9961-9966**

**uvmnp** - Hierarchical NPC number denoting beginning of range specification

**wxkqr** - Hierarchical NPC number denoting end of range specification

**uv,wx** - Unit number

**m,k** - Module number

**np,qr** - NPC number within the module

The valid values are presented below:

DE, DS, and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

MB type NPC numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-8</b> | <b>01-02</b> |

VI NPC numbers listed by unit, module, and NPC Number  
Unit Type VI (Virtual)

| Unit      | Module   | NPC          |                                 |
|-----------|----------|--------------|---------------------------------|
| <b>99</b> | <b>1</b> | <b>01-02</b> | <b>(DACS II Non-CEF frames)</b> |
| <b>99</b> | <b>1</b> | <b>01-06</b> | <b>(DACS II CEF frames)</b>     |

**[t]jkl** - The 3- or 4-digit NPC number in range [s]abc-[t]def, of a non-channelized NPC.

**edhfg** - Hierarchical non-channelized NPC number in range uvmnp-wxkqr

**TYPE** - Type

**mnxyz** - NPC type

*mnxyz Explanation*

DExyz FTU NPC

DSxyz SLC® carrier interface

MB100 Digital Multipoint Bridge

MJ100 Multipoint Junction

TExyz DS3U unit NPC

SR100 Subrate Multiplexer

VIxyz Virtual circuit

**xx** - Total number of marked channels in the message segment (01 through 24)

**FDL** - Facility data link

**t** - Cross-connection type

*t Explanation*

B For broadcast cross-connection

D For disconnection

\* For one-way cross-connection

'' Blank for two-way cross-connection,

T A Facility Access Digroup (FAD) or a Test Port (TP) channel

**nnn** - Channel or conference number

**ccc** - CUS if customer controlled or --- if not customer controlled

**rrr** - RDC if red circuit or --- if not red circuit

**UEQD** - Unequipped

----- - Unknown NPC type



**cc** - Hexadecimal condition code

**cc** *Explanation*

**0B** Invalid CEPT NPC

## **UTL,QRY,MARK**

---

### **QUERY CHANNEL MARKS**

#### **Explanation Of Command**

---

This command is used to query a network processing circuit for the channel and conference points that are **MARKed** as red or customer controlled circuits.

The command can be entered to request a listing for a group of channels or conference points or for a single channel or conference point. This command can be aborted before the entire printout has completed.

For a disconnected channel which was previously used in both two-way and one-way cross-connections, the CUS marking retained for the two-way cross-connection is output by default.

Outputs are skipped under the following conditions:

- Unequipped NPC
- Channel/conference point has no red circuit or customer controlled marking.

#### **Command**

---

##### **Nonhierarchical**

---

[I.52211]

**UTL:FRM xy,SEQ ww:QRY,MARK [s]abcjjj[-kkk]!**

##### **Hierarchical**

---

[I.52211]

**UTL:FRM xy,SEQ ww:QRY,MARK uvmnpjjj[-kkk]!**

## **Completion Message**

---

### **Nonhierarchical**

---

Usage: Single channel or conference point

[O.52211]

M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abcjjj TYPE mnxyz tjjjccrrr COMPL

[O.52211]

M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abc000 TYPE DExyz FDL t000ccrrr COMPL

Usage: Range of channels or conference points

[O.52211]

M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abcjjj-kkk TYPE mnxyz xx e LN MSG:  
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abcjjj-kkk TYPE mnxyz xx e LN MSG:  
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
tnnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abcjjj[-kkk] COMPL

Usage: No channel or conference points are marked.

[O.52213]

M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abcjjj[-kkk] NONE COMPL

## **Hierarchical**

---

**Usage: Single channel or conference point**

[O.52211]

M hh:mm:ss xy,ww n[vv] UTL QRY MARK uvmnpjjj TYPE mnxyz tjjjccrrr COMPL

[O.52211]

M hh:mm:ss xy,ww n[vv] UTL QRY MARK uvmnpjjj TYPE DExyz FDL tnnccrrr COMPL

**Usage: Range of channels or conference points**

[O.52211]

M hh:mm:ss xy,ww n[vv] UTL QRY MARK uvmnpjjj-kkk TYPE mnxyz xx e LN MSG:  
[tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
[tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
[tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr EOM

.  
.  
.

M hh:mm:ss xy,ww n[vv] UTL QRY MARK uvmnpjjj-kkk TYPE mnxyz xx e LN MSG:  
[tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
[tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
[tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr]  
tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr tnnccrrr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY MARK uvmnpjjj-kkk COMPL

**Usage: No channels or conference points are marked.**

[O.52213]

M hh:mm:ss xy,ww n[vv] UTL QRY MARK uvmnpjjj[-kkk] NONE COMPL

### **Denial Message**

---

### **Nonhierarchical**

---

[O.52211.01]

M hh:mm:ss xy,ww n[vv] QRY MARK [s]abc TYPE ----- UEQD DNY

[O.52211.02]

M hh:mm:ss xy,ww n[vv] QRY MARK [s]abcjjj[-kkk] [{RT|DL} ffff \  
MD g[g] [t]aaa] COND cc DNY

### **Hierarchical**

---

[O.52211.01]

M hh:mm:ss xy,ww n[vv] QRY MARK uvmnp TYPE ----- UEQD DNY

[O.52211.02]

M hh:mm:ss xy,ww n[vv] QRY MARK uvmnpjjj[-kkk] [{RT|DL} ffff \  
MD g[g] uvkqr] COND cc DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**MARK** - Mark

Red circuit and customer controlled MARKings

**NONE** - None

This keyword indicates that no channel or conference point is marked as a red and/or customer controlled circuit.

**[s]abcjjj**

- Termination number

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

**jjj** - Channel or conference point number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-002</b> | <b>161-162</b> | <b>321-322</b> | <b>481-482</b> | <b>641-642</b> | <b>801-802</b> |
| <b>021-022</b> | <b>181-182</b> | <b>341-342</b> | <b>501-502</b> | <b>661-662</b> | <b>821-822</b> |
| <b>041-042</b> | <b>201-202</b> | <b>361-362</b> | <b>521-522</b> | <b>681-682</b> | <b>841-842</b> |
| <b>061-062</b> | <b>221-222</b> | <b>381-382</b> | <b>541-542</b> | <b>701-702</b> | <b>861-862</b> |
| <b>081-082</b> | <b>241-242</b> | <b>401-402</b> | <b>561-562</b> | <b>721-722</b> | <b>881-882</b> |
| <b>101-102</b> | <b>261-262</b> | <b>421-422</b> | <b>581-582</b> | <b>741-742</b> | <b>901-902</b> |
| <b>121-122</b> | <b>281-282</b> | <b>441-442</b> | <b>601-602</b> | <b>761-762</b> | <b>921-922</b> |
| <b>141-142</b> | <b>301-302</b> | <b>461-462</b> | <b>621-622</b> | <b>781-782</b> | <b>941-942</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0002</b> | <b>0161-0162</b> | <b>0321-0322</b> | <b>0481-0482</b> |
| <b>0021-0022</b> | <b>0181-0182</b> | <b>0341-0342</b> | <b>0501-0502</b> |
| <b>0041-0042</b> | <b>0201-0202</b> | <b>0361-0362</b> | <b>0521-0522</b> |
| <b>0061-0062</b> | <b>0221-0222</b> | <b>0381-0382</b> | <b>0541-0542</b> |
| <b>0081-0082</b> | <b>0241-0242</b> | <b>0401-0402</b> | <b>0561-0562</b> |
| <b>0101-0102</b> | <b>0261-0262</b> | <b>0421-0422</b> | <b>0581-0582</b> |
| <b>0121-0122</b> | <b>0281-0282</b> | <b>0441-0442</b> | <b>0601-0602</b> |
| <b>0141-0142</b> | <b>0301-0302</b> | <b>0461-0462</b> | <b>0621-0622</b> |

| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0642</b> | <b>0801-0802</b> | <b>0961-0962</b> | <b>1121-1122</b> |
| <b>0661-0662</b> | <b>0821-0822</b> | <b>0981-0982</b> | <b>1141-1142</b> |
| <b>0681-0682</b> | <b>0841-0842</b> | <b>1001-1002</b> | <b>1161-1161</b> |
| <b>0701-0702</b> | <b>0861-0862</b> | <b>1021-1022</b> | <b>1181-1182</b> |
| <b>0721-0722</b> | <b>0881-0882</b> | <b>1041-1042</b> | <b>1201-1202</b> |
| <b>0741-0742</b> | <b>0901-0902</b> | <b>1061-1062</b> | <b>1221-1222</b> |
| <b>0761-0762</b> | <b>0921-0922</b> | <b>1081-1082</b> | <b>1241-1242</b> |
| <b>0781-0782</b> | <b>0941-0942</b> | <b>1101-1102</b> | <b>1261-1262</b> |

| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1282</b> | <b>1441-1442</b> | <b>1601-1602</b> | <b>1761-1762</b> |
| <b>1301-1302</b> | <b>1461-1462</b> | <b>1621-1622</b> | <b>1781-1782</b> |
| <b>1321-1322</b> | <b>1481-1482</b> | <b>1641-1642</b> | <b>1801-1802</b> |
| <b>1341-1342</b> | <b>1501-1502</b> | <b>1661-1662</b> | <b>1821-1822</b> |
| <b>1361-1362</b> | <b>1521-1522</b> | <b>1681-1682</b> | <b>1841-1842</b> |
| <b>1381-1382</b> | <b>1541-1542</b> | <b>1701-1702</b> | <b>1861-1862</b> |
| <b>1401-1402</b> | <b>1561-1562</b> | <b>1721-1722</b> | <b>1881-1882</b> |
| <b>1421-1422</b> | <b>1581-1582</b> | <b>1741-1742</b> | <b>1901-1902</b> |
| <br>             |                  |                  |                  |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-1922</b> | <b>2081-2082</b> | <b>2241-2242</b> | <b>2401-2402</b> |
| <b>1941-1942</b> | <b>2101-2102</b> | <b>2261-2262</b> | <b>2421-2422</b> |
| <b>1961-1962</b> | <b>2121-2122</b> | <b>2281-2282</b> | <b>2441-2442</b> |
| <b>1981-1982</b> | <b>2141-2142</b> | <b>2301-2302</b> | <b>2461-2462</b> |
| <b>2001-2002</b> | <b>2161-2162</b> | <b>2321-2322</b> | <b>2481-2482</b> |
| <b>2021-2022</b> | <b>2181-2182</b> | <b>2341-2342</b> | <b>2501-2502</b> |
| <b>2041-2042</b> | <b>2201-2202</b> | <b>2361-2362</b> | <b>2521-2522</b> |
| <b>2061-2062</b> | <b>2221-2222</b> | <b>2381-2382</b> | <b>2541-2542</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |



|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

DACS II Non-CEF frames support two virtual NPCs using the three digit NPC numbering scheme. The valid values for Non-CEF frames are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit  
-

**NPC**  
**961-962**

DACS II CEF frames support six virtual NPCs using either a three digit or four digit NPC numbering scheme. If NPC numbers are expressed in three digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit  
-

**NPC**  
**961-966**

If NPC numbers are expressed in four digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**9961-9966**

**uvmnp** - Hierarchical NPC number

**uv** - Unit number

**m** - Module number

**np** - NPC number within the module

**jjj** - Channel or conference point number

The valid values follow:

DE and DS type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

MB type NPC numbers listed by unit, module, and NPC Number

Unit Type DP (DSPU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-8</b> | <b>01-02</b> |

TE NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

VI NPC numbers listed by unit, module, and NPC Number

Unit Type VI (Virtual)

| Unit      | Module   | NPC          |                                 |
|-----------|----------|--------------|---------------------------------|
| <b>99</b> | <b>1</b> | <b>01-02</b> | <b>(DACS II Non-CEF frames)</b> |
| <b>99</b> | <b>1</b> | <b>01-06</b> | <b>(DACS II CEF frames)</b>     |

**kkk** - Channel or conference point number

Channel numbers

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

Conference numbers

001-085 (MB NPC)

001-500 (Virtual NPC)

**tnnnccrrr**

- Channel or conference information

**t** - Cross-connection type

**t** *Explanation*

\* One-way cross-connection

B Broadcast cross-connection,  
Blank for two-way cross-connection,

D Disconnection

**nnn** - Channel or conference point number (jjj through kkk)

**ccc** - Customer controlled marking

**ccc** *Explanation*

CUS Customer controlled

--- Not customer controlled

**rrr** - Red circuit marking

**rrr** *Explanation*

RDC Red circuit

--- Not red circuit

**xx** - Total number of data fields in the segment (01 through 24)

**RT** - Remote terminal

SLC® carrier remote terminal

**DL** - Digital carrier line unit

**ffff** - SLC carrier RT or DCLU Bank identification number (0000 through 9999)

**MD** - Mode

**g[g]** - Mode of operation

**g[g]** *Explanation*

|   |                                        |
|---|----------------------------------------|
| 1 | SLC 96 carrier Mode I                  |
| 3 | SLC 96 carrier Mode III                |
| C | SLC Series 5 carrier Feature Package C |

**[t]aaa** - The 3- or 4-digit nonhierarchical SLC carrier digroup A NPC number.

**uvkqr** - Hierarchical SLC carrier digroup A NPC number.

|           |                 |
|-----------|-----------------|
| <b>uv</b> | - Unit number   |
| <b>k</b>  | - module number |
| <b>qr</b> | - NPC number    |

**UEQD** - Unequipped

**TYPE** - Type

**mnxyz** - NPC type

**mnxyz** *Explanation*

|       |                        |
|-------|------------------------|
| ----- | Unknown NPC type       |
| DExyz | Enhanced digroup       |
| DSxyz | SLC carrier interface  |
| MBxyz | Multipoint bridge      |
| TExyz | DS3U noninterface unit |
| TIxyz | DS3U interface unit    |
| VIxyz | Virtual circuit        |

**FDL** - Facility data link

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 01** Invalid range for specified NPC type
- 0B** Invalid CEPT NPC
- 62** Invalid channel number
- 63** NPC is a DGP
- 7F** NPC is not added
- 91** SR NPC was specified - not allowed
- B5** CPR circuit pack specified in the command
- F7** Corresponding NPC for virtual channel is not provisioned

## **UTL,QRY,MEMSTAT**

---

### **RETRIEVE MEMORY STATUS**

#### **Explanation Of Command**

---

This message identifies the current contents of the system memory devices. A separate line of information is provided for the Main Controller RAM, Primary Memory Card (PMEM) and Secondary Memory Card (SMEM). The message response provides the following information for each particular memory device that can be accessed:

1. Software Release of the Executable Program
2. Software Release of the Database
3. Date and Time Stamps of the Database
4. Frame ID and Unique ID
5. Feature Package ID
6. Serial number of the database
7. Serial number of the SunDisk card (PMEM and SMEM only)
8. Service state of the card (PMEM and SMEM) and the service state of the RAM as it corresponds to the state of the MC. If the MC is in-service RAM is in-service, if the MC is in maintenance condition RAM is out-of-service.

This message may be executed either while the Main Controller is In-Service or in Maintenance Condition.

#### **Command**

---

[I.51001]

**UTL:[FRM xy,SEQ ww]:QRY,MEMSTAT!**

### Completion Message

[O.51001]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MEMSTAT 5 LN MSG:
DEV  EXCT   DBASE   DATE       TIME       FID  UID
dddd  gg.pp.r dd.rr.v aa/bb/yr  hr:mn:sc fg  <uid>
dddd  gg.pp.r dd.rr.v aa/bb/yr  hr:mn:sc fg  <uid>
dddd  gg.pp.r dd.rr.v aa/bb/yr  hr:mn:sc fg  <uid>  EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY MEMSTAT 5 LN MSG:
FPKG   DBSN   FCSN   STATE
nnnnnnnn 0000000000 qqqqqqqqqqqqqqqqqqqqq <state>
nnnnnnnn 0000000000 qqqqqqqqqqqqqqqqqqqqq <state>
nnnnnnnn 0000000000 qqqqqqqqqqqqqqqqqqqqq <state>  COMPL
```

### Denial Message

Not applicable.

### Autonomous Message

Not applicable.

### Explanation Of Parameters

#### MEMSTAT

- Memory Status

**DEV** - Device

**dddd** - Device identifier.

This field identifies a system memory device. The data following the memory device describes the current contents of the memory device. The system memory devices are:

**dddd** *Explanation*

**RAM** Main Controller Random Access Memory

**PMEM** Primary Memory Card

**SMEM** Secondary Memory Card

**EXCT** - Executables

**gg.pp.r**

- Software release identifier.

This field identifies the software release of the executable program that is stored in the memory device. The software release ID is a three part number composed of a release number, a point number, and a version number. This field will appear as a set of dashes if no executable program can be found on the memory device. The software release number "gg.pp.r" is composed of:

**gg** - Software release number  
**pp** - Point release number  
**r** - Version number

**DBASE** - Database

**dd.rr.v**

- Database release identifier.

This field identifies the release of executable program that the database stored in the memory device is formatted for. A database is formatted for a particular executable program release; however, it is compatible with not only the shown release but all other executable program releases that have a greater release ID. The release ID is a three part number composed of a release number, a point number and a version number. This field will appear as a set of dashes if no database can be found on the memory device. The database release number "dd.rr.v" is composed of:

**dd** - Release number  
**rr** - Point release number  
**v** - Version number

**DATE** - Date

**aa/bb/yr**

- Date of last update to the database.

This field identifies the date that the database was created or last updated. For the RAM data line, this field shows the current system date. For the PMEM and SMEM data lines, this field shows the date that the most recent database backup to the Flash Card occurred.

The date field will appear as a set of dashes if no database can be found on the memory device. The date may be generated in either the month-day-year or the day-month-year format, depending on how the user has provisioned it using message I.51021, UTL::DATE.

**aa** Month or Day, depending on selected date format.  
**bb** Day or Month, depending on selected date format.  
**yr** Year



**TIME** - Time

**hr:mn:sc**

- Time of last update to the database.

This field identifies the time that the database was created or last updated. For the RAM memory data line, this field shows the current system time. For the PMEM and SMEM data lines, this field shows the time of day that the most recent database backup to the Flash Card occurred. This field will appear as a set of dashes if no database can be found on the memory device.

**hr** - Hour (00 through 23)  
**mn** - Minute (00 through 59)  
**sc** - Second (00 through 59)

**FID** - Frame ID

**fg** - Frame identifier of the memory device.

This field displays the two alphanumeric character frame identifier "fg" of the memory device. For the MC RAM memory device, the frame ID shown is that of the DACS II system. For the flash cards, PMEM and/or SMEM, the frame ID identifies the system that the memory card belongs to. This field will be shown as dashes if no frame ID can be found on the memory device.

**UID** - Unique ID

**uid** - Unique identifier of the memory device.

This field displays the unique identifier **<uid>**, up to 20 alpha-numeric characters, of the memory device. For the MC RAM memory device, the unique ID shown is that of the DACS II system. For the flash cards, PMEM and/or SMEM, the unique ID identifies the system that the flash card belongs to. This field will be shown as dashes if no unique ID can be found on the memory device.

**FPKG** - Feature Package ID

**nnnnnnnn**

- Feature package identifier.

This field displays the eight character hexadecimal identifier of the feature package. For the MC RAM memory device, the feature package ID shown is that of the DACS II system. For the flash cards, PMEM and/or SMEM, the feature package ID identifies the system that the flash card belongs to. This field will be shown as dashes if no feature package ID can be found on the memory device.

**DBSN** - Database Serial Number

**0000000000**

- Database serial number.

This field displays the ten character numeric identifier of the serial number of the database. For the MC RAM memory device, the database serial number shown is that of the DACS II system. For the flash cards, PMEM and/or SMEM, the database serial number identifies the system that the flash card belongs to. This field will be shown as dashes if no serial number can be found on the memory device.

This field will be padded with blanks if necessary.

**FCSN** - Flash Card

**qqqqqqqqqqqqqqqqqqqqqq**

- Flash card serial number.

This field displays the 20 character alpha-numeric serial number of the flash card. For the MC RAM memory device, the flash card serial number shown is that of the DACS II system. For the flash cards, PMEM and/or SMEM, the serial number identifies the system that the flash card belongs to. This field will be shown as dashes if no serial number can be found on the memory device.

This field will be padded with blanks if necessary.

**STATE** - Service State

**state** - Identifies the state of the memory device.

This field displays the service state of the memory device. The valid states are:

**state** *Explanation*

**IS** In State

**OOS** Out Of State

## **UTL,QRY,NPC,ALL,AI,LV,LOCN,MONDAT**

### **QUERY PERFORMANCE MONITORING DATA FOR DA, TA, AND PA TYPE NPCS**

#### **Explanation Of Command**

This message retrieves current and/or historical DS1 performance monitoring data from DA and TA type NPCs. The message response is output in two distinct formats depending on whether the input command is applied to ALL NPCs on the frame or a set of specifically addressed NPCs.

When the command is applied to ALL NPCs, DACS II responds with the current parameter counts of a single specified performance parameter for ALL NPCs. No output level thresholding is performed and all counts, whether they are zero or greater, are output. The output is formatted on a module-by-module basis for Facility Terminating Units and DS3 Units. If a particular NPC within a module is not a DA or TA type NPC, its accumulator count will be printed as a string of dashes.

When a single NPC or range of NPCs is specifically addressed in the input command, all of the optionally entered user parameters are programmable. DACS II outputs the requested data in a different format, which accommodates the various user options.

This command will handle NPC addressing as follows: If only a single NPC is addressed in the input command, then either a completion or denial response will be generated for the addressed NPC. DACS II will always deny invalid commands to specifically addressed NPCS.

If a range of NPCs is addressed and the feature applies to one or more NPCs within the range, DACS II will perform the command on the NPCs in the range that support the requested feature, but skip the NPCs which do not support the requested feature. DACS II does not output denial responses for range of NPCs.

Restrictions are placed on the use of the "ALL" options for various keywords to constrain the amount of data that will be output for a single command. In particular,

1. If all parameters are requested, the input command is restricted to specifying a single NPC and a single monitored date and/or historical accumulation interval (monitored time).

2. If all daily accumulation registers are requested, the input command is restricted to specifying a single NPC and a single parameter.
3. If all 15-minute accumulation registers are requested, the input command is restricted to specifying a single NPC and a single parameter.

## Command

### Nonhierarchical

[I.56091]

UTL:FRM xy,SEQ ww:QRY,{NPC [s]abc[-[t]def]|ALL},<parameter>,AI aaaaa \[,LV llllllllll][,LOCN locn][,MONDAT dddd][,MONTIM tttt]!

### Hierarchical

[I.56091]

UTL:FRM xy,SEQ ww:QRY,{NPC uvmnp[-wxkqr]|ALL},<parameter>,AI aaaaa \[,LV llllllllll][,LOCN locn][,MONDAT dddd][,MONTIM tttt]!

## Completion Message

### Nonhierarchical

Output message when the ALL keyword is used for NPCs, retrieving the current counter values of a single specified parameter type from all ANSI NPCs:

**Note:** The following segment applies to a Facility Terminating Module.

[O.56091]

M hh:mm:ss xy,ww n[vv] UTL QRY ALL NPCS [s]abc-[t]def <parameter> 8 LN MSG:  
AI aaaaa[ LOCN locn]

```

xxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx
xxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx
xxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx
xxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx
xxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx
xxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx
xxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx EOM

```

**Note:** The following segment applies to a DS3 Module.

M hh:mm:ss xy,ww n[vv] UTL QRY ALL NPCS [s]abc-[t]def <parameter> 6 LN MSG:  
AI aaaaa[ LOCN locn]

```

XXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX
XXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX
XXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX
XXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX EOM

```

M hh:mm:ss xy,ww n[vv] UTL QRY ALL <parameter> AI aaaaa[ LOCN locn] COMPL

Output message when the ALL keyword is not used for NPCs.

[O.56092]

M hh:mm:ss xy,ww n[vv] UTL QRY NPCS <parameter> e LN MSG:  
AI aaaaa [LV llllllllll ][LOCN locn ][MONDAT dddd ][MONTIM tttt ]

| NPC    | PARAM | COUNT    | VLDTY | MONDAT | MONTIM   |
|--------|-------|----------|-------|--------|----------|
| [s]abc | pppp  | cccccccc | v     | dddd   | tttt     |
| .      | pppp  | cccccccc | v     | dddd   | tttt     |
| .      | pppp  | cccccccc | v     | dddd   | tttt     |
| .      | pppp  | cccccccc | v     | dddd   | tttt     |
| .      | pppp  | cccccccc | v     | dddd   | tttt     |
| .      | pppp  | cccccccc | v     | dddd   | tttt     |
| .      | pppp  | cccccccc | v     | dddd   | tttt     |
| .      | pppp  | cccccccc | v     | dddd   | tttt     |
| [v]ghi | pppp  | cccccccc | v     | dddd   | tttt EOM |

.  
.  
.

```

M hh:mm:ss xy,ww n[vv] UTL QRY NPCS <parameter> e LN MSG:
AI aaaaa [LV llllllllll ][LOCN locn ][MONDAT dddd ][MONTIM tttt ]
  NPC    PARAM    COUNT    VLDTY MONDAT MONTIM
[u]jkl  pppp ccccccccc v    dddd  tttt
.       pppp ccccccccc v    dddd  tttt
.       pppp ccccccccc v    dddd  tttt
.       pppp ccccccccc v    dddd  tttt
.       pppp ccccccccc v    dddd  tttt
.       pppp ccccccccc v    dddd  tttt
.       pppp ccccccccc v    dddd  tttt
.       pppp ccccccccc v    dddd  tttt
[t]def  pppp ccccccccc v    dddd  tttt EOM

```

```

M hh:mm:ss xy,ww n[vv] UTL QRY NPCS [s]abc[-[t]def] <parameter> 2 LN MSG:
AI aaaaa [LV llllllllll ][LOCN locn ][MONDAT dddd ][MONTIM tttt ]COMPL

```

### Hierarchical

Output message when the ALL keyword is used for NPCs, retrieving the current counter values of a single specified parameter type from all ANSI NPCs:

**Note:** The following segment applies to a Facility Terminating Module.

[O.56091]

```

M hh:mm:ss xy,ww n[vv] UTL QRY ALL NPCS uvmnp-uvmqr <parameter> 8 LN MSG:
AI aaaaa[ LOCN locn]
xxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx
xxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx
xxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx
xxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx
xxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx
xxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx
xxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx EOM

```

.  
.  
.

**Note:** The following segment applies to a DS3 Module.

M hh:mm:ss xy,ww n[vv] UTL QRY ALL NPCS uvmnp-uvmqr <parameter> 6 LN MSG:  
AI aaaaa[ LOCN locn]

xxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx  
xxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx  
xxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx  
xxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx EOM

.  
.  
.

M hh:mm:ss xy,ww n[vv] UTL QRY ALL <parameter> AI aaaaa[ LOCN locn] COMPL

Output message when the ALL keyword is not used for NPCs.

[O.56092]

M hh:mm:ss xy,ww n[vv] UTL QRY NPCS <parameter> e LN MSG:  
AI aaaaa [LV llllllllll ][LOCN locn ][MONDAT dddd ][MONTIM tttt ]

| NPC   | PARAM | COUNT    | VLDTY | MONDAT | MONTIM   |
|-------|-------|----------|-------|--------|----------|
| uvmnp | pppp  | cccccccc | v     | dddd   | tttt     |
| .     | pppp  | cccccccc | v     | dddd   | tttt     |
| .     | pppp  | cccccccc | v     | dddd   | tttt     |
| .     | pppp  | cccccccc | v     | dddd   | tttt     |
| .     | pppp  | cccccccc | v     | dddd   | tttt     |
| .     | pppp  | cccccccc | v     | dddd   | tttt     |
| .     | pppp  | cccccccc | v     | dddd   | tttt     |
| .     | pppp  | cccccccc | v     | dddd   | tttt     |
| edhfg | pppp  | cccccccc | v     | dddd   | tttt EOM |

.  
.  
.

```

M hh:mm:ss xy,ww n[vv] UTL QRY NPCS <parameter> e LN MSG:
AI aaaaa [LV llllllllll ][LOCN locn ][MONDAT dddd ][MONTIM tttt ]
  NPC    PARAM    COUNT    VLDTY MONDAT MONTIM
opjst    pppp    ccccccccc    v    dddd    tttt
.        pppp    ccccccccc    v    dddd    tttt
.        pppp    ccccccccc    v    dddd    tttt
.        pppp    ccccccccc    v    dddd    tttt
.        pppp    ccccccccc    v    dddd    tttt
.        pppp    ccccccccc    v    dddd    tttt
.        pppp    ccccccccc    v    dddd    tttt
.        pppp    ccccccccc    v    dddd    tttt
wxkqr    pppp    ccccccccc    v    dddd    tttt EOM

```

```

M hh:mm:ss xy,ww n[vv] UTL QRY NPCS uvmnp[-wxkqr] <parameter> 2 LN MSG:
AI aaaaa [LV llllllllll ][LOCN locn ][MONDAT dddd ][MONTIM tttt ]COMPL

```

## Denial Message

---

## Nonhierarchical

---

[O.56091.01]

```

M hh:mm:ss xy,ww n[vv] UTL QRY {NPC [s]abc[-[t]def]|ALL} <parameter> 2 LN MSG:
AI aaaaa[ LV llllllllll ][ LOCN locn ][ MONDAT dddd ][ MONTIM tttt ] COND cc DNY

```

## Hierarchical

---

[O.56091.01]

```

M hh:mm:ss xy,ww n[vv] UTL QRY {NPC uvmnp[-wxkqr]|ALL} <parameter> 2 LN MSG:
AI aaaaa[ LV llllllllll ][ LOCN locn ][ MONDAT dddd ][ MONTIM tttt ] COND cc DNY

```

## Autonomous Message

---

Not applicable.



### Explanation Of Parameters

**NPC** - Network processing circuit  
**NPCS** - Network processing circuits

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number  
**[v]ghi** - The 3- or 4-digit nonhierarchical NPC number  
**[u]jkl** - The 3- or 4-digit nonhierarchical NPC number  
**[t]def** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number  
**uvmqr** - Hierarchical NPC number  
**edhfg** - Hierarchical NPC number  
**opjst** - Hierarchical NPC number  
**wxkqr** - Hierarchical NPC number

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**e** - Number of lines in the message

**ALL** - All

**PARAM** - Parameter

**parameter**

- Parameter name

**pppp** - Parameter value

The parameter whose value is requested and/or reported. The parameter ALLPAR is an input parameter only. If ALLPAR is specified, the following restrictions apply to the input command:

- 1) The command must specify only a single NPC; ranges are not allowed.
- 2) The MONTIM input parameter may not have a value of ALL.
- 3) The MONDAT input parameter may not have a value of ALL.
- 4) The optional LV input parameter must not be present in the command; it defaults to a value of 1-Up and parameter counts of zero are not shown.

| <b>parameter</b> | <i>Explanation</i>                    |
|------------------|---------------------------------------|
| <b>CVP</b>       | Path Coding Violations                |
| <b>CVL</b>       | Line Coding Violations                |
| <b>ESP</b>       | Path Errored Seconds                  |
| <b>ESL</b>       | Line Errored Seconds                  |
| <b>SESP</b>      | Path Severely Errored Seconds         |
| <b>SESL</b>      | Line Severely Errored Seconds         |
| <b>SEFS</b>      | Path Severely Errored Framing Seconds |
| <b>CSSP</b>      | Path Controlled Slip Seconds          |
| <b>UASP</b>      | Path Unavailable Seconds              |
| <b>ALLPAR</b>    | All parameters listed above           |

| <b>parameter</b> | <i>Explanation</i>                                |
|------------------|---------------------------------------------------|
| <b>CRC</b>       | CRC Block Errors                                  |
| <b>FRER</b>      | Framing Errors                                    |
| <b>OFS</b>       | Out of Frame Seconds                              |
| <b>ES</b>        | Errored Seconds                                   |
| <b>SES</b>       | Severely Errored Seconds                          |
| <b>CSS</b>       | Controlled Slip Seconds                           |
| <b>CV</b>        | Coding Violations                                 |
| <b>UAS</b>       | Unavailable Seconds                               |
| <b>UATC</b>      | Unavailable Time Count                            |
| <b>MER</b>       | Multiframe Errors                                 |
| <b>FEBE</b>      | Far End Block Errors*                             |
| <b>FES</b>       | Far End Errored Seconds*                          |
| <b>FSES</b>      | Far End Severely Errored Seconds*                 |
| <b>FUAS</b>      | Far End Unavailable Seconds*                      |
| <b>ALLPM</b>     | All parameters listed above                       |
| <b>ALLE</b>      | All Near-end parameters listed above              |
| <b>ALLF</b>      | All Far-end parameters (marked by *) listed above |

**LV** - Level

**lllllllll**

- The discriminating level for the requested parameter

If llllllll is not specified in the input command, it defaults to a value of 1-Up.

If "ALL" is specified in the input command a default value of 0-Up is applied. This provides the current counts (zero included, unfiltered) of the specified parameter for all NPCs on the frame.

Keywords LV and ALL are mutually exclusive.

**lllllllll**

*Explanation*

**{00000000-134217728}U**

Discriminating Level-Up Direction

**{00000000-134217728}D**

Discriminating Level-Down Direction

**Up** - Parameters with values equal to or greater than the specified "discriminating level" are reported.

**Down** - Parameters with values equal to or less than the specified "discriminating level" are reported.

**LOCN** - Location

**locn** - The location being performance monitored

If this optional parameter is not present in the input command, it defaults to a value of NEND.

**locn** *Explanation*

**NEND** Near-end

**FEND** Far-end

**AI** - Accumulation interval

**aaaaa** - The accumulation time period for the specified parameter

**aaaaa** *Explanation*

**15MIN** Parameter count from a 15-minute accumulator

**DAILY** Parameter count from a daily accumulator

**COUNT** - Count

**cccccccc**

- The accumulated value of a monitored parameter (nine digits)

This parameter is meaningless if the VLDTY parameter indicates that data is not available for the interval.

All leading 0's will be output.

|                              |                           |
|------------------------------|---------------------------|
| <b>cccccccc</b>              | <i>Explanation</i>        |
| <b>{000000000-134217728}</b> | Range of parameter counts |

**VLDTY** - Validity

**v** - Validity indicator

This parameter indicates whether the information for the specified accumulation interval was accumulated over the entire interval or some portion of it.

|          |                                                              |
|----------|--------------------------------------------------------------|
| <b>v</b> | <i>Explanation</i>                                           |
| <b>A</b> | Adjusted, data was manually initialized                      |
| <b>C</b> | Complete, data was accumulated over the entire interval      |
| <b>L</b> | Long, data was accumulated longer than the interval period   |
| <b>P</b> | Partial, data was accumulated over only part of the interval |

**MONDAT** - Monitored Date

**dddd** - Begin date of performance monitoring period

As an input parameter, this specifies the date of the beginning of the performance monitoring period (specified in the AI parameter) as MMDD, where MM is the month (01-12) and DD is the day (01-31) of the month. If this optional input parameter is not present in the command, it defaults to a value of CURD.

The value ALL is an option only for input commands. If the value ALL is selected, all of the daily accumulation registers are retrieved. If the value ALL is selected, only a single NPC can be specified in the input command. The input command must also select the value of DAILY for the AI parameter, and must not contain the MONTIM parameter.

The following restriction applies to the use of MONDAT in input commands:

This parameter must not appear in input commands  
which select AI = 15MIN and MONTIM = ALL.

As an output parameter, this specifies the date of the beginning of the performance monitoring period as MMDD, where MM is the month (01-12) and DD is the day (01-31) of the month.

| <b>dddd</b>           | <i>Explanation</i>                              |
|-----------------------|-------------------------------------------------|
| <b>{01-12}{01-31}</b> | Month of Year/Day of Month Format               |
| <b>ALL</b>            | All daily accumulators (historical and current) |
| <b>CURD</b>           | Current Date                                    |

**MONTIM** - Monitored Time

**tttt** - Begin time of the performance monitoring period

This parameter specifies the beginning time of day of the requested performance monitoring period (specified in the AI parameter) as HHMM, where HH is the hour (00-23) and MM is the minute {00,15,30,45} of the hour. If this optional input parameter is not present in the command, it defaults to a value of CURT.

The value ALL is an option only for input commands. Selecting the value ALL retrieves all 97 (historical and current) 15-minute accumulation registers of the selected NPC. If the value ALL is selected, only a single NPC can be specified in the input command. The input command must also select the value of 15MIN for the AI parameter. In addition, an input command which specifies parameter = ALLPAR can not also select MONTIM = ALL.

The following restriction applies to the use of MONTIM in input commands:

This parameter must not appear in input commands which specify daily accumulation intervals (AI = DAILY).

| <b>tttt</b>                 | <i>Explanation</i>         |
|-----------------------------|----------------------------|
| <b>{00-23}{00,15,30,45}</b> | Hour of Day/Minute of Hour |
| <b>ALL</b>                  | All 15-minute accumulators |
| <b>CURT</b>                 | Current Time               |

**COND** - Condition

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                                                   |
|-----------|-------------------------------------------------------------------|
| <b>04</b> | Subject entity is out of service                                  |
| <b>11</b> | UC is out of service                                              |
| <b>12</b> | UC is in service but failed                                       |
| <b>14</b> | FTMI is out of service                                            |
| <b>15</b> | NPC is unequipped                                                 |
| <b>1F</b> | FTMI is in service but failed                                     |
| <b>26</b> | NPC type error                                                    |
| <b>0B</b> | Invalid CEPT NPC                                                  |
| <b>0C</b> | The MONDAT and MONTIM parameters can not both be specified        |
| <b>A0</b> | The selected MXR associated with the NPC is Out-Of-Service        |
| <b>A1</b> | The selected MXR associated with the NPC is In-Service but failed |
| <b>B7</b> | The associated MXR is In-Service but pestered                     |
| <b>A1</b> | The parameter specified does not match with the NPC type          |
| <b>0E</b> | Only one parameter is allowed                                     |
| <b>1B</b> | Historical data can not be specified                              |



**cc**    *Explanation*

- 1D**    Level field is not allowed
- 1E**    Monitored Date field is not allowed
- 20**    Only DAILY for accumulation interval is allowed
- 21**    Only 15MIN for accumulation interval is allowed
- 22**    FTMI is PESTED
- 23**    No PM data available
- 24**    Monitored Time field is not allowed
- 89**    Interval is not valid/not available
- 9E**    MONDAT set to ALL is not allowed
- 9F**    MONTIM set to ALL is not allowed

## **UTL,QRY,NPC,MAP,USER**

### **UTILITY QUERY NPC MAP**

#### **Explanation Of Command**

This message lists all network processing circuits (NPCs) added to the alternate map except for the two-point, two-way cross-connect circuits (TCONS).

A user can query their own maps or macros but only the frame administrator can query maps or macros owned by another user.

#### **Command**

[I.54111]

**UTL:FRM xy,SEQ ww:QRY,NPC,MAP <name>[,USER <user id>]!**

## **Completion Message**

---

### **Nonhierarchical**

---

[O.54111]

```
M hh:mm:ss xy,ww n[vv] UTL QRY NPC MAP <name>\
[ USER <user id>] e LN MSG:
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx
.
.
.
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY NPC MAP <name>\
[ USER <user id>] e LN MSG:
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx
.
.
.
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY NPC MAP <name>\
[ USER <user id>] COMPL
```

[O.54112]

```
M hh:mm:ss xy,ww n[vv] UTL QRY NPC MAP <name>\
[ USER <user id>] NONE COMPL
```

## **Hierarchical**

---

[O.54111]

M hh:mm:ss xy,ww n[vv] UTL QRY NPC MAP <name>\  
[ USER <user id>] e LN MSG:  
uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp

.  
.  
.

uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp EOM

M hh:mm:ss xy,ww n[vv] UTL QRY NPC MAP <name>\  
[ USER <user id>] e LN MSG:  
uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp

.  
.  
.

uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp EOM

M hh:mm:ss xy,ww n[vv] UTL QRY NPC MAP <name>\  
[ USER <user id>] COMPL

[O.54112]

M hh:mm:ss xy,ww n[vv] UTL QRY NPC MAP <name>\  
[ USER <user id>] NONE COMPL

## **Denial Message**

---

[O.54111.01]

M hh:mm:ss xy,ww n[vv] UTL QRY NPC MAP <name>\  
[ USER <user id>] COND cc DNY

## **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**NPC** - Network processing circuit

**MAP** - Alternate Map

**name** - The alternate map name which is a string of uppercase alphanumeric characters from one to seven characters long. The first character must be an alphabetic character.

**USER** - User

**user id**

- User login identification is two to eight alphabetic characters.

A user can query his or her own maps but only the frame administrator can use the command to query maps owned by other users. To do so, the optional USER field must be entered.

**[x]xxx** - The 3- or 4-digit nonhierarchical NPC Number

If NPC numbers are expressed in three digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |

| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC Number

DE type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 62** File is being accessed
- 64** File doesn't exist/can't be accessed
- D0** Command is Frame administrator (DAX) only.
- D3** User does not exist
- D5** No user is logged in on the link/vc

## **UTL, QRY, NPC, RT, DL**

---

### **QUERY NETWORK PROCESSING CIRCUIT PARAMETER**

#### **Explanation Of Command**

---

This message requests a printout of the values for a specified facility performance parameter for a single network processing circuit (NPC), a range of circuits, or a SLC® carrier remote terminal or Digital Carrier Line Unit.

These values may be cleared at any time by using the UTL, CLR, ALL command. This message requests a printout of the values for a specified facility performance parameter for a single network processing circuit (NPC) or a range of circuits.

These values may be cleared at any time by using the INIT, REG, ALL command. This message also reports on the CEPT BER status of NPCs. The responses generated by this command are determined by the number of NPCs addressed in the command.

- If a single NPC is addressed in the input command then one message, either a completion or denial, will be generated for the addressed NPC. DACS II will always deny invalid commands to specifically addressed NPCs.
- If a range of NPCs is addressed in the input command, no denial response will be generated.

#### **Command**

---

#### **Nonhierarchical**

---

[I.56041]

UTL:FRM xy,SEQ ww:QRY,<parameter>,{NPC [s]abc[-[t]def]|\  
RT ffff|DL ffff}!



## Hierarchical

[I.56041]

UTL:FRM xy,SEQ ww:QRY,<parameter>,{NPC uvmnp[-wxkqr]|\  
RT ffff|DL ffff}!

## Completion Message

### Nonhierarchical

[O.56041]

M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> \  
NPCS [s]jjj[-[t]kkk][ RESET] TOT nnnn 5 LN MSG:  
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM

.  
.  
.

M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> \  
NPCS [s]ooo[-[t]ppp][ RESET] TOT nnnn 5 LN MSG:  
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM

M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> NPC [s]abc-[t]def COMPL

**Note:** The above message applies to domestic Facility Terminating Module (FTM) and parameters other than ER and BER.

[O.56041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> \
NPCS [s]jjj[-[t]kkk][ RESET] TOT nnnn 5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM
```

.  
.  
.

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> \
NPCS [s]ooo[-[t]ppp][ RESET] TOT nnnn 5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> NPC [s]abc-[t]def COMPL
```

**Note:** The above message applies to DS3 modules (i.e., a Multiplexer) and parameter other than ER and BER.

[O.56041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> {RT|DL} ffff MD g[g][ RESET] 3 LN MSG:
[DGA [s]aaa] [DGB [s]bbb] [DGC [s]ccc] [DGD [s]ddd] [DGP [s]ppp]
[xxxxx] [xxxxx] [xxxxx] [xxxxx] [xxxxx] COMPL
```

**Note:** The above message applies to SLC® Carrier Remote Terminal (RT) or Digital Carrier Line Interface (DCLU) and parameter other than ER and BER.

[O.56042]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {ER|BER} NPCS [s]jjj[-[t]kkk]\
[ RESET] TOT nnnn 5 LN MSG:
XX XX XX XX XX  XX XX XX XX XX
XX XX XX XX XX  XX XX XX XX XX
XX XX XX XX XX  XX XX XX XX XX
XX XX XX XX XX  XX XX XX XX XX EOM
```

.  
.  
.

```
M hh:mm:ss xy,ww n[vv] UTL QRY {ER|BER} NPCS [s]ooo[-[t]ppp]\
[ RESET] TOT nnnn 5 LN MSG:
XX XX XX XX XX  XX XX XX XX XX
XX XX XX XX XX  XX XX XX XX XX
XX XX XX XX XX  XX XX XX XX XX
XX XX XX XX XX  XX XX XX XX XX EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY {ER|BER} NPCS [s]abc[-[t]def]\
COMPL
```

**Note:** The above message applies to domestic Facility Terminating Module (FTM) and either parameter ER or BER.

[O.56042]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {ER|BER} NPCS [s]jjj[-[t]kkk]\
[ RESET] TOT nnnn 5 LN MSG:
XX XX XX XX XX XX XX
XX XX XX XX XX XX XX
XX XX XX XX XX XX XX
XX XX XX XX XX XX XX EOM
```

.  
.  
.

```
M hh:mm:ss xy,ww n[vv] UTL QRY {ER|BER} NPCS [s]ooo[-[t]ppp]\
[ RESET] TOT nnnn 5 LN MSG:
XX XX XX XX XX XX XX
XX XX XX XX XX XX XX
XX XX XX XX XX XX XX
XX XX XX XX XX XX XX EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY {ER|BER} NPCS [s]abc[-[t]kkk]\
COMPL
```

**Note:** The above message applies to DS3 modules (i.e., a Multiplexer) and either parameter ER or BER.

[O.56042]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {ER|BER} {RT|DL} ffff MD g[g][ RESET] 3 LN MSG:
[DGA [s]aaa] [DGB [s]bbb] [DGC [s]ccc] [DGD [s]ddd] [DGP [s]ppp]
[xx] [xx] [xx] [xx] [xx] COMPL
```

**Note:** The above message applies to SLC® Carrier Remote Terminal (RT) or Digital Carrier Line Interface (DCLU) and either parameter ER or BER.

[O.56043]

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> \
NPCS [s]jjj[-[t]kkk][ RESET] TOT 0000 COMPL
```

[O.56044]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {ER|BER} NPCS [s]jjj[-[t]kkk]\
[ RESET] TOT 0000 COMPL
```

## Hierarchical

[O.56041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> NPCS uvmkl[-uvmpq]\
[ RESET] TOT nnnn 5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx \
EOM
```

.  
.  
.

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> NPCS wxkfg[-wxkst]\
[ RESET] TOT nnnn 5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx \
EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> NPC uvmnp-wxkqr \
COMPL
```

**Note:** The above message applies to domestic Facility Terminating Module (FTM) and parameter other than ER and BER.

[O.56041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> NPCS uvmkl[-uvmpq]\
[ RESET] TOT nnnn 5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM
```

.  
.  
.

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> NPCS wxkfg[-wxkst]\
[ RESET]
TOT nnnn 5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> NPC uvmnp-wxkqr \
COMPL
```

**Note:** The above message applies to DS3 modules (i.e., a Multiplexer) and parameter other than ER and BER.

[O.56041]

M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> {RT|DL} ffff MD g[g] [ RESET] 3 LN MSG:  
[DGA uvmaa] [DGB uvmbb] [DGC uvmcc] [DGD uv added] [DGP uv added]  
[xxxxx] [xxxxx] [xxxxx] [xxxxx] [xxxxx] COMPL

**Note:** The above message applies to SLC Carrier Remote Terminal (RT) or Digital Carrier Line Interface (DCLU) and parameter other than ER or BER.

[O.56042]

M hh:mm:ss xy,ww n[vv] UTL QRY {ER|BER} NPCS uv added [-uv added]\  
[ RESET] TOT nnnn 5 LN MSG:  
xx xx xx xx xx xx xx xx xx xx xx  
xx xx xx xx xx xx xx xx xx xx xx  
xx xx xx xx xx xx xx xx xx xx xx  
xx xx xx xx xx xx xx xx xx xx xx EOM

.  
.  
.

M hh:mm:ss xy,ww n[vv] UTL QRY {ER|BER} NPCS wxkfg [-wxkst]\  
[ RESET] TOT nnnn 5 LN MSG:  
xx xx xx xx xx xx xx xx xx xx xx  
xx xx xx xx xx xx xx xx xx xx xx  
xx xx xx xx xx xx xx xx xx xx xx  
xx xx xx xx xx xx xx xx xx xx xx EOM

M hh:mm:ss xy,ww n[vv] UTL QRY {ER|BER} NPC uv added-wxkqr \  
COMPL

**Note:** The above message applies to domestic Facility Terminating Module (FTM) and either parameter ER or BER.

[O.56042]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {ER|BER} NPCS uvmkl[-unmpq]\
[ RESET] TOT nnnn 5 LN MSG:
XX XX XX XX XX XX XX
XX XX XX XX XX XX XX
XX XX XX XX XX XX XX
XX XX XX XX XX XX XX EOM
```

.  
.  
.

```
M hh:mm:ss xy,ww n[vv] UTL QRY {ER|BER} NPCS wxkfg[-wxkst]\
[ RESET] TOT nnnn 5 LN MSG:
XX XX XX XX XX XX XX
XX XX XX XX XX XX XX
XX XX XX XX XX XX XX
XX XX XX XX XX XX XX EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY {ER|BER} NPC uvmnp-wxkqr COMPL
```

**Note:** The above message applies to DS3 modules (i.e., a Multiplexer) and either parameter ER or BER.

[O.56042]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {ER|BER} {RT|DL} ffff MD g[g] [ RESET] 3 LN MSG:
[DGA uvmaa] [DGB uvmbb] [DGC uvmcc] [DGD uvmd d] [DGP uvmpp]
[xx] [xx] [xx] [xx] [xx] COMPL
```

**Note:** The above message applies to SLC Carrier Remote Terminal (RT) or Digital Carrier Line Interface (DCLU) and either parameter ER or BER.

[O.56043]

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> NPCS uvmkl[-uvmpq]\
[ RESET] TOT 0000 COMPL
```

[O.56044]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {ER|BER} NPCS uvmkl[-uvmpq]\
[ RESET] TOT 0000 COMPL
```

## Denial Message

### Nonhierarchical

[O.56041.01]

M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> \  
{NPC [s]abc[-[t]def]|RT ffff|DL ffff} COND cc DNY

### Hierarchical

[O.56041.01]

M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> \  
{NPC uvmp[-wxqr]|RT ffff|DL ffff} COND cc DNY

### Autonomous Message

Not applicable.

### Explanation Of Parameters

- [s]abc** - The 3- or 4-digit nonhierarchical NPC number, the first number of a range
- [t]def** - The 3- or 4-digit nonhierarchical NPC number, the last number of a range

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |



|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number the first NPC number of a range  
**wxkqr** - Hierarchical NPC number denoting end of an NPC range

**uv, wx** - Unit number  
**m, k** - Module number  
**np, qr** - NPC number within the module

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**parameter**  
- Facility performance parameter

For domestic frames, the parameter and its period of measurement are chosen from the list below:

| <i>Parameter</i> | <i>Explanation</i>         | <i>Period of measurement</i>                           |
|------------------|----------------------------|--------------------------------------------------------|
| BER              | Bit Error Rate             | Total since "local midnight"                           |
| BPV              | Bipolar Violation          | Total since "local midnight"                           |
| COFA             | Change Of Frame Alignment  | Total since "local midnight"                           |
| CRC              | Cyclic Redundancy Code     | Total since "local midnight"                           |
| ER               | Error Rate                 | Previous 24-hour total<br>(same as BER for D4 framing) |
| ERS              | Errored Seconds            | Previous 24-hour total                                 |
| FRER             | Framing Error              | Total since "local midnight"                           |
| OOF              | Out Of Frame               | Total since "local midnight"                           |
| SERS             | Severe Errored Seconds     | Previous 24-hour total                                 |
| SLIP Slip count  | Previous 24-hour total     |                                                        |
| SAFE             | Shelf Alarm Far End count  | Total since "local midnight"                           |
| SANE             | Shelf Alarm Near End count | Total since "local midnight"                           |

**Note:** If the frame contains NPCs that are provisioned with D4 framing only the ER parameter should be used, the BER parameter should not be used.

A message segment will be omitted for:

- Unequipped FTMs
- Equipped FTMs having no NPCs
- Equipped FTMs with NPCs having zero parameter values.
- DS3 modules in case of BPV request (for domestic only)
- Equipped CEPT FTM with all NPCs being PA type but with a parameter other than BER.

xxxxxx - Parameter count values

Note that dashes ("-") will be output for NPCs that are not equipped or are provisioned with a type inapplicable to the parameter. If an entire FTM is unequipped or all its NPCs are dashes, the segment is skipped.

xx - BER states

For xx representing North American BER states:

| <i>xx</i> | <i>Explanation</i>                         |
|-----------|--------------------------------------------|
| --        | Unequipped NPC                             |
| CL        | Clear (a facility type NPC without errors) |
| ER        | Error state                                |
| MJ        | Major state                                |
| MN        | Minor state                                |

*RBER Explanation*

|   |          |
|---|----------|
| 1 | Inactive |
| 0 | Active   |

**[s]jjj** - The Lowest 3- or 4-digit nonhierarchical NPC number in the FTM/MXR that contains NPC [s]abc

**[t]kkk** - The Highest 3- or 4-digit nonhierarchical NPC number in the FTM/MXR that contains NPC [s]abc

**[s]ooo** - The Lowest 3- or 4-digit nonhierarchical NPC number in the FTM/MXR that contains NPC [t]def

**[t]ppp** - The Highest 3- or 4-digit nonhierarchical NPC number in the FTM/MXR that contains NPC [t]def

**uvmkl** - Lowest hierarchical NPC number in the FTM/MXR that contains NPC uvmnp

**uvmppq** - Highest hierarchical NPC number in the FTM/MXR that contains NPC uvmnp

**wxkfg** - Lowest hierarchical NPC number in the FTM/MXR that contains NPC wxkqr

**wxkst** - Highest hierarchical NPC number in the FTM/MXR that contains NPC wxkqr

**RESET** - Reset. Indicates that one of more autonomous resets have occurred

The parameter value for the first NPC is in the first position (upper left corner); first line of the message. The parameter value for the last NPC is located in the lower right corner.

**nnnn** - Cumulative count of NPCs returning nonzero states or values. The last nnnn, the one printed out in the message concluding with COMPL gives the total number of NPCs with nonzero states or values over the specified range.

If NPCs are in a single FTM, then only one 5-line message is printed.

**DGA** - Digroup A  
**DGB** - Digroup B  
**DGC** - Digroup C  
**DGD** - Digroup D  
**DGP** - Digroup P, the protection digroup

**[s]aaa** - The 3- or 4-digit nonhierarchical digroup A NPC number

**[s]bbb**

- The 3- or 4-digit nonhierarchical digroup B NPC number

**[s]ccc** - The 3- or 4-digit nonhierarchical digroup C NPC number

**[s]ddd** - The 3- or 4-digit nonhierarchical digroup D NPC number

**[s]ppp** - The 3- or 4-digit nonhierarchical digroup P NPC number

**ffff** - SLC carrier bank identification number (0000 through 9999)

**g[g]** - Mode of Operation

*[g]g Explanation*

1 SLC 96 carrier Mode 1

3 SLC 96 carrier Mode 3

C SLC Series 5 carrier (Feature Package C)

**cc** - Hexadecimal condition code

**cc** *Explanation*

**04** Subject entity is out of service

**10** Unit is not equipped

**11** UC is out of service

**12** UC is in service but failed

**13** FTMI is not equipped

**14** FTMI is out of service

**15** NPC is unequipped

**1F** FTMI is in service but failed

**24** Unit type error

**0B** Invalid CEPT NPC

**46** NPC Failed or Out of Service

**7E** Bank id number not found

**A0** No SAFE alarm for DGP

**0E** The specified parameter is not applicable to operation mode of the RT

**A1** The parameter specified does not match with the NPC type

## **UTL,QRY,NPCTG**

---

### **UTILITY QUERY TEST-ACCESS GROUP NPC**

#### **Explanation Of Command**

---

This command is used to request information regarding one or more network processing circuits used for test-access groups (NPCTGs). the following information will be provided for each designated NPCTG:

1. All test-access groups (TGs)
2. TG width
3. The bundle being supported (east or west)
4. the channel assignment on the NPCTG

The TGs are listed in the order of bandwidth assignment.

#### **Command**

---

[I.53091]

**UTL:FRM xy,SEQ ww:QRY,NPCTG rrr[-sss]!**

## Completion Message

---

### Nonhierarchical

---

[O.53091]

M hh:mm:ss xy,ww n[vv] UTL QRY NPCTG rrr NPC [s]abc p LN MSG:  
TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]  
[TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]]  
[TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]]  
..... {EOM|COMPL}

M hh:mm:ss xy,ww n[vv] UTL QRY NPCTG rrr[-sss] UEQD {EOM|COMPL}

M hh:mm:ss xy,ww n[vv] UTL QRY NPCTG rrr NPC [s]abc UASGN {EOM|COMPL}

M hh:mm:ss xy,ww n[vv] UTL QRY NPCTG sss NPC [t]def p LN MSG:  
TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]  
[TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]]  
[TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]]  
..... {EOM|COMPL}

## **Hierarchical**

---

[O.53091]

M hh:mm:ss xy,ww n[vv] UTL QRY NPCTG rrr NPC uvmnp p LN MSG:  
TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]  
[TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]]  
[TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]]  
..... {EOM|COMPL}

M hh:mm:ss xy,ww n[vv] UTL QRY NPCTG rrr[-sss] UEQD {EOM|COMPL}

M hh:mm:ss xy,ww n[vv] UTL QRY NPCTG rrr NPC uvmnp UASGN {EOM|COMPL}

M hh:mm:ss xy,ww n[vv] UTL QRY NPCTG sss NPC wxkqr p LN MSG:  
TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]  
[TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]]  
[TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]]  
..... {EOM|COMPL}

## **Denial Message**

---

[O.53091.01]

M hh:mm:ss xy,ww n[vv] UTL QRY NPCTG rrr[-sss] COND cc DNY

## **Autonomous Message**

---

Not applicable.



### Explanation Of Parameters

**TG** - Test (access) group

**mmm** - TG number (001 through 400)

**NPCTG** - NPC (for) test group

**rrr** - TG number (001 through 400)

**sss** - TG number (001 through 400, must be greater than rrr)

Variable sss is used to specify the end of an NPCTG range

**[s]abc** - 3- or 4-digit non-hierarchical NPC number designated as NPCTG rrr

**[t]def** - 3- or 4-digit non-hierarchical NPC number designated as NPCTG sss

If NPC numbers are expressed in three digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |
| <b>16A-16H</b>               | <b>32A-32H</b>               | <b>48A-48H</b>               | <b>64A-64H</b>               | <b>80A-80H</b>               | <b>96A-96H</b>               |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number designated as NPCTG rrr  
**wxkqr** - Hierarchical NPC number designated as NPCTG sss

**uv, wx** - Unit number  
**m, k** - Module number  
**np, qr** - NPC number within the module

The valid values are listed below:

DE type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

Unit    Module    NPC  
**01-16   1-4    01-40**

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**E** - East

East bundle of the TG

**W** - West

West bundle of the TG

**UEQD** - Unequipped

**UASGN** - Unassigned

No TG assigned to this NPCTG

**NN** - TG width (01 through 24)

**aa** - Starting channel for the bundle (01 through 24)

**bb** - Ending channel for the bundle (02 through 24);  
for NN = 1, bb is '--'

**cc** - Hexadecimal condition code

**cc** *Explanation*

**62** None of the designated NPCTG(s) are equipped

## **UTL, QRY, OPT, TYPE, ALL, NPCS**

### **UTILITY QUERY OPTIONS NPCS**

#### **Explanation Of Command**

This message requests a printout of the parameter threshold values for NPC types stored in the DACS II threshold data base.

If an NPC type is specified, the output message shows the threshold values for all parameters associated with the designated NPC type. If the ALL keyword is entered, the output message shows the threshold values for the parameters and all NPC types.

#### **Command**

[I.53051]

**UTL:FRM xy,SEQ ww:QRY,OPT[, {TYPE mn|ALL}],NPCS!**

## **Completion Message**

---

Usage: DE or TE type

[O.53051]

M hh:mm:ss xy,ww n[vv] UTL QRY OPT TYPE mn NPCS 5 LN MSG:  
OPT 01 00255 bbbbbb ccccc ddddd MJ SLIP  
OPT 02 00004 bbbbbb ccccc ddddd MN SLIP  
OPT 03 00003 bbbbbb ccccc ddddd MJ BER  
OPT 04 00006 bbbbbb ccccc ddddd MN BER EOM

M hh:mm:ss xy,ww n[vv] UTL QRY OPT TYPE DE TRSP NPCS 2 LN MSG:  
OPT 03 00004 bbbbbb ccccc ddddd MJ BER EOM

M hh:mm:ss xy,ww n[vv] UTL QRY OPT TYPE mn NPCS 5 LN MSG:  
OPT 05 00864 bbbbbb ccccc ddddd ERS  
OPT 06 00225 bbbbbb ccccc ddddd SERS  
OPT 07 00511 bbbbbb ccccc ddddd MJ COFA  
OPT 08 00017 bbbbbb ccccc ddddd MN COFA {COMPL|EOM}

Usage: DS type

[O.53051]

M hh:mm:ss xy,ww n[vv] UTL QRY OPT TYPE DS NPCS 5 LN MSG:  
OPT 01 00255 bbbbbb ccccc ddddd MJ SLIP  
OPT 02 00004 bbbbbb ccccc ddddd MN SLIP  
OPT 03 00004 bbbbbb ccccc ddddd MJ BER  
OPT 04 00006 bbbbbb ccccc ddddd MN BER EOM

M hh:mm:ss xy,ww n[vv] UTL QRY OPT TYPE DS NPCS 5 LN MSG:  
OPT 05 00864 bbbbbb ccccc ddddd ERS  
OPT 06 00225 bbbbbb ccccc ddddd SERS  
OPT 07 00511 bbbbbb ccccc ddddd MJ COFA  
OPT 08 00017 bbbbbb ccccc ddddd MN COFA EOM

M hh:mm:ss xy,ww n[vv] UTL QRY OPT TYPE DS NPCS 3 LN MSG:  
OPT 09 00000 bbbbbb ccccc ddddd SANE  
OPT 10 00000 bbbbbb ccccc ddddd SAFE {EOM|COMPL}

Usage: DA or TA type

[O.53051]

M hh:mm:ss xy,ww n[vv] UTL QRY OPT TYPE mn NPCS 9 LN MSG:  
OPT 41 000132960/000000691 bbbbbbbbb cccccccc dddddddd CVP, DN  
OPT 42 00648 bbbbb cccc dddd ESP, DN  
OPT 43 00100 bbbbb cccc dddd SESP, DN  
OPT 44 00017 bbbbb cccc dddd SEFS, DN  
OPT 45 00004 bbbbb cccc dddd CSSP, DN  
OPT 46 00010 bbbbb cccc dddd UASP, DN  
OPT 47 000133400 bbbbbbbbb cccccccc dddddddd CVL, DN  
OPT 48 00648 bbbbb cccc dddd ESL, DN EOM

M hh:mm:ss xy,ww n[vv] UTL QRY OPT TYPE mn NPCS 9 LN MSG:  
OPT 49 00100 bbbbb cccc dddd SESL, DN  
OPT 50 000132960/000000691 bbbbbbbbb cccccccc dddddddd CVP, DF  
OPT 51 00648 bbbbb cccc dddd ESP, DF  
OPT 52 00100 bbbbb cccc dddd SESP, DF  
OPT 53 00017 bbbbb cccc dddd SEFS, DF  
OPT 54 00004 bbbbb cccc dddd CSSP, DF  
OPT 55 00010 bbbbb cccc dddd UASP, DF  
OPT 56 00648 bbbbb cccc dddd ESL, DF EOM

M hh:mm:ss xy,ww n[vv] UTL QRY OPT TYPE mn NPCS 9 LN MSG:  
OPT 57 0013296/0000072 bbbbbbb ccccccc ddddddd CVP, QN  
OPT 58 00065 bbbbb cccc dddd ESP, QN  
OPT 59 00010 bbbbb cccc dddd SESP, QN  
OPT 60 00002 bbbbb cccc dddd SEFS, QN  
OPT 61 00001 bbbbb cccc dddd CSSP, QN  
OPT 62 00010 bbbbb cccc dddd UASP, QN  
OPT 63 0013340 bbbbbbb ccccccc ddddddd CVL, QN  
OPT 64 00065 bbbbb cccc dddd ESL, QN EOM

M hh:mm:ss xy,ww n[vv] UTL QRY OPT TYPE mn NPCS 9 LN MSG:  
OPT 65 00010 bbbbb cccc dddd SESL, QN  
OPT 66 0013296/0000072 bbbbbbb ccccccc ddddddd CVP, QF  
OPT 67 00065 bbbbb cccc dddd ESP, QF  
OPT 68 00010 bbbbb cccc dddd SESP, QF  
OPT 69 00002 bbbbb cccc dddd SEFS, QF  
OPT 70 00001 bbbbb cccc dddd CSSP, QF  
OPT 71 00010 bbbbb cccc dddd UASP, QF  
OPT 72 00065 bbbbb cccc dddd ESL, QF {COMPL|EOM}



### **Denial Message**

---

Not applicable.

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**OPT** - Option

In the output messages the first value shown following the keyword OPT is the option number. The value immediately following the option number is the default alarm threshold value. The next three fields show user-programmed values. Any user-programmed values that have not been initialized in the DACS II data base will be shown as "----[----]". Until they are initialized, user-programmable values can not be used as valid alarm thresholds.

For ANSI NPC types (DA and TA type NPCs), a programmed alarm threshold value of zero for any parameter disables threshold crossing alert messages for that parameter.

For the Major Slip and Minor Slip parameters (OPT 01 and 02, respectively) a programmed threshold value of zero disables the respective threshold crossing alarms.

**TYPE** - Type

**mn** - NPC type

| <i>mn</i> | <i>Explanation</i> |
|-----------|--------------------|
|-----------|--------------------|

|    |                                               |
|----|-----------------------------------------------|
| DA | Facility Terminating Unit (FTU) ANSI NPC type |
| DE | Facility Terminating Unit (FTU) NPC type      |
| DS | SLC® carrier NPC type                         |
| TA | DS3 Unit ANSI NPC type                        |
| TE | DS3 Unit NPC type                             |

**ALL** - Indicates all NPC types associated with the features being turned on in the frame (for example, TE for the DS3 feature and DS for the SLC carrier feature).

If neither an NPC type nor the ALL keyword are specified, the default NPC type is DE.

If the frame is a Gateway frame the default NPC type is DE.

**NPCS** - Network processing circuits

**SLIP** - Slip

**BER** - Bit Error Rate

**ERS** - Errored Seconds

**SERS** - Severely Errored Seconds

**COFA** - Change of Frame Alignment

**SAFE** - Shelf Alarm Far End

**SANE** - Shelf Alarm Near End

**MJ** - Major

**MN** - Minor

**DE** - Facility Terminating Unit (FTU) NPC type

Threshold parameters for ANSI NPC types

**CVP** - Coding Violations, Path

**CVL** - Coding Violations, Line

**ESP** - Errored Seconds, Path

**ESL** - Errored Seconds, Line

**SESP** - Severely Errored Seconds, Path

**SESL** - Severely Errored Seconds, Line

**SEFS** - Severely Errored Framing Seconds

**CSSP** - Controlled Slip Seconds, Path

**UASP** - Unavailable Seconds, Path

**D** - Daily

**Q** - 15 minute

**N** - Near-end

**F** - Far-end

**TRSP** - Transparent

This keyword indicates that the message contains the BER alarm threshold options for clear-DS1 NPCs. User-defined options with values other than 4, 5 or 6 are shown as '-----'

User-programmed alarm threshold values

**bbbb[bbbb]**

- First

**cccc[cccc]**

- Second

**dddd[dddd]**

- Third

## **UTL, QRY, PEST, FAIL, OOS, COMMON**

### **UTILITY QUERY STATUS COMMON EQUIPMENT**

#### **Explanation Of Command**

This message is used to request reports on one of the following parameters:

PEST    Pest states  
FAIL    Failed components  
OOS    Out-of-service components

The output message reports the status of the requested parameter on common equipment of the frame.

#### **Command**

[I.53105]

**UTL:FRM xy,SEQ ww:QRY,{PEST|FAIL|OOS},COMMON!**

### **Completion Message**

---

[O.53105]

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} \  
g h i j k l m n o p EOM

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} 3 LN MSG:  
SYNC x x CRO x  
TLI x x x x x x x x x x x x \  
x x x x EOM

For DACS II Non-CEF frames, the next segment describes the CCN hardware:

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} TOTAL \  
TSIS tt nn 5 LN MSG:  
11 x x 12 x x 13 x x 14 x x 15 x x 16 x x  
21 x x 22 x x 23 x x 24 x x 25 x x 26 x x  
31 x x 32 x x 33 x x 34 x x 35 x x 36 x x  
41 x x 42 x x 43 x x 44 x x 45 x x 46 x x EOP

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} TOTAL \  
TSIS tt nn 3 LN MSG:  
51 x x 52 x x 53 x x 54 x x 55 x x 56 x x  
61 x x 62 x x 63 x x 64 x x 65 x x 66 x x EOM

For DACS II CEF frames, the segment describes the ECCN hardware:

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} TOTAL \  
ETSIS tt nn 3 LN MSG:  
01 x x 02 x x 03 x x 04 x x 05 x x 06 x x \  
07 x x 08 x x  
09 x x 10 x x 11 x x 12 x x 13 x x 14 x x \  
15 x x 16 x x EOM

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} COMMON COMPL

### **Denial Message**

---

Not applicable.

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**PEST** - Pested

**FAIL** - Failed

**OOS** - Out of service

For the PEST, FAIL and OOS indications, each entity in the DACS II frame is represented by a single character variable. This variable can have the value of 1, 0 or "-" indicating the following status:

| <i>Value</i> | <i>OOS</i>     | <i>FAIL</i>    | <i>PEST</i>    |
|--------------|----------------|----------------|----------------|
| 1            | out of service | failed         | pested         |
| 0            | in service     | not failed     | unpested       |
| -            | not applicable | not applicable | not applicable |

A hyphen (-) indicates the parameter is not applicable to the particular entity. For example, an unequipped circuit displays a "-" for its OOS, FAIL and PEST indicators.

The DACS II entities and their status fields are as follows:

- g** - Link 1
- h** - Link 2
- i** - Link 3
- j** - Link 4
- k** - Link 5
- l** - Link 6
- m** - XC0 (cross-connect 0)
- n** - XC1 (cross-connect 1)
- o** - CCNI/CCI 0 (cross-connect network interface 0 for non-CEF frame)  
(clock and control interface 0 for CEF frame)
- p** - CCNI/CCI 1 (cross-connect network interface 1 for non-CEF frame)  
(clock and control interface 1 for CEF frame)

**SYNC** - Synchronizer

**CRO** - Clock reference oscillator

**TLI** - Timing link interface

**x** - TLI status, side 0

**x** - TLI status, side 1

TLI information is listed in the message from left to right, starting with status information for TLI 1, SSP 0, Side 0 in the first position and ending with status information for TLI 4, SSP1, Side 1 in the last position. The entities for which status is reported are listed below in the order they appear in the output message.

The status is represented by the variable x or x. The value of the variable is interpreted as follows.

*x* Explanation (PEST, FAIL, or OOS will be indicated in message)

0 Unpested, in-service, or not failed

1 Pested, out-of-service, or failed

Side 0

**TLI 1, SSP 0**

**TLI 1, SSP 1**

**TLI 2, SSP 0**

**TLI 2, SSP 1**

**TLI 3, SSP 0**

**TLI 3, SSP 1**

**TLI 4, SSP 0**

**TLI 4, SSP 1**

Side 1

**TLI 1, SSP 0**

**TLI 1, SSP 1**

**TLI 2, SSP 0**

**TLI 2, SSP 1**

**TLI 3, SSP 0**

**TLI 3, SSP 1**

**TLI 4, SSP 0**

**TLI 4, SSP 1**

**TSI** - Time slot interchange

**f** - FROM unit (1 through 6)

**t** - TO Unit (1 through 6)

**ETSI** - Expanded time slot interchanger

- x** - Status indication for the entity or for the side 0 entity if duplicated.
- x** - Status indication for side 1 entity.
- tt** - Total number of equipped TSIs/ETSIs.
- nn** - Total number of equipped TSIs/ETSIs having the requested status.



## **UTL,QRY,PEST,FAIL,OOS,UNIT**

### **UTILITY QUERY STATUS OF ENTITIES/EQUIPMENT**

#### **Explanation Of Command**

This message requests reports on any one of the following parameters:

PEST          FAIL          OOS

These reports may be on the entire DACS II frame or on the common equipment of the frame.

#### **Command**

[I.53103]

UTL:FRM xy,SEQ ww:QRY,{PEST|FAIL|OOS}[ ,UNIT [q]q]!

## Completion Message

### Nonhierarchical

If the optional unit number is not entered, the following output segments will be generated:

The output starts out with:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} \
g h i j k l m n o p EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} 3 LN MSG:
SYNC x x CRO x
TLI x x x x x x x x x x x x \
x x x x EOM
```

For DACS II nonCEF frames, the next segment describes the CCN hardware:

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} TOTAL \
TSIS tt nn 5 LN MSG:
11 x x 12 x x 13 x x 14 x x 15 x x 16 x x
21 x x 22 x x 23 x x 24 x x 25 x x 26 x x
31 x x 32 x x 33 x x 34 x x 35 x x 36 x x
41 x x 42 x x 43 x x 44 x x 45 x x 46 x x EOP
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} TOTAL \
TSIS tt nn 3 LN MSG:
51 x x 52 x x 53 x x 54 x x 55 x x 56 x x
61 x x 62 x x 63 x x 64 x x 65 x x 66 x x EOM
```

For DACS II CEF frames, the segment describes the ECCN hardware:

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} TOTAL \
ETSIS tt nn 3 LN MSG:
01 x x 02 x x 03 x x 04 x x 05 x x 06 x x \
07 x x 08 x x
09 x x 10 x x 11 x x 12 x x 13 x x 14 x x \
15 x x 16 x x EOM
```

The output then continues with information about the common equipment in the units. The data line will only appear for units that are equipped. If more than four units are equipped, the output for the equipage of the units will be divided into multiple segments.

[O.53103]

```
[M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNITS e LN MSG:]
[<data line for the common equipment in the first equipped unit>]
[<data line for the common equipment in the second equipped unit>]
[<data line for the common equipment in the third equipped unit>]
[<data line for the common equipment in the fourth equipped unit> EOM]
```

```
[M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNITS e LN MSG:]
[<data line for the common equipment in the fifth equipped unit>]
[<data line for the common equipment in the sixth equipped unit>]
[<data line for the common equipment in the seventh equipped unit>]
[<data line for the common equipment in the eighth equipped unit> EOM]
```

```
[M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNITS e LN MSG:]
[<data line for the common equipment in the ninth equipped unit>]
[<data line for the common equipment in the tenth equipped unit>]
[<data line for the common equipment in the eleventh equipped unit>]
[<data line for the common equipment in the twelfth equipped unit> EOM]
```

```
[M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNITS e LN MSG:]
[<data line for the common equipment in the thirteenth equipped unit>]
[<data line for the common equipment in the fourteenth equipped unit>]
[<data line for the common equipment in the fifteenth equipped unit>]
[<data line for the common equipment in the sixteenth equipped unit> EOM]
```

Data line for a unit equipped as DS1 FTU:

```
UNIT [q]q UC a FTMI b c d e FC f g h j k m p q[ CCB r s]
```

Data line for a unit equipped as a DS3U:

```
UNIT [q]q UC a FLI b c FMT l m MXR d e f g h j k MIU n o p q u v w \
[CCB r s]
```

Data line for a unit equipped as a DSPU:

```
UNIT [q]q UC a DSPI b[ CCB r s]
```

Then the output message continues with information about individual NPCs. For each FTM/MXR (or unit in the case of a DSPU), one output message will be printed.

Output message for PEST, FAIL, or OOS status of NPCs on an equipped DS1 FTM:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} FTU \
NPCS [a]aaa-[b]bbb tt 5 LN MSG:
x x x x x x x x x x {PEST|FAIL|OOS} nn
x x x x x x x x x x
x x x x x x x x x x
x x x x x x x x x x
x x x x x x x x x x EOM
```

Output message for PEST, FAIL, or OOS status of NPCs on an equipped DS3 MXR:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} DS3U \
NPCS [a]aaa-[b]bbb tt 5 LN MSG:
x x x x x x x {PEST|FAIL|OOS} nn
x x x x x x x
x x x x x x x
x x x x x x x
x x x x x x x EOM
```

Output message for PEST, FAIL, or OOS status of NPCs on an equipped DSP Unit:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} DSPU \
NPCS [a]aaa-[b]bbb tt 3 LN MSG:
[z]zzz x x [z]zzz x x [z]zzz x x [z]zzz x x
[z]zzz x x [z]zzz x x [z]zzz x x [z]zzz x x \
{PEST|FAIL|OOS} nn EOM
```

Output message for NPCs on an equipped FTM/MXR/DSPU with no NPC in PEST, FAIL, or OOS state:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} \
{FTU|DS3U|DSPU} NPCS [a]aaa-[b]bbb tt 2 LN MSG:
{PEST|FAIL|OOS} 00 EOM
```

After the above information is output, the following message will be generated to complete the response:

[O.53103]

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} COMPL

If the unit number is specified, the following output segments will be generated:

For entities in an FTU:

[O.53103]

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} 2 LN MSG:  
UNIT [q]q UC a FTMI b c d e FC f g h j k m p q[ CCB r s] EOM

The output then continues with up to four of the following segment depending on the FTM equipage:

[O.53103]

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNIT [q]q FTU \  
NPCS [a]aaa-[b]bbb tt 5 LN MSG:  
x x x x x x x x x x {PEST|FAIL|OOS} nn  
x x x x x x x x x x  
x x x x x x x x x x  
x x x x x x x x x x EOM

For entities in a DS3U:

[O.53103]

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} 2 LN MSG:  
UNIT [q]q UC a FLI b c FMT l m MXR d e f g h j k MIU n o p q u v w\  
[ CCB r s] EOM

The output then continues with up to seven of the following segments depending on the MXR equipage:

[O.53103]

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNIT [q]q DS3U \  
NPCS [a]aaa-[b]bbb tt 5 LN MSG:  
x x x x x x x x x x {PEST|FAIL|OOS} nn  
x x x x x x x  
x x x x x x x  
x x x x x x x EOM

For entities in a DSPU:

[O.53103]

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNIT [q]q UC a \  
DSPFI b[ CCB r s] EOM

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNIT [q]q \  
DSPU NPCS [a]aaa-[b]bbb tt 3 LN MSG:  
[z]zzz x x [z]zzz x x [z]zzz x x [z]zzz x x  
[z]zzz x x [z]zzz x x [z]zzz x x [z]zzz x x \  
{PEST|FAIL|OOS} EOM

Output message for NPCs on an equipped FTM/MXR/DSPU with no NPC in PEST, FAIL,  
or OOS state:

[O.53103]

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} {FTU|DS3U|DSPU} \  
NPCS [a]aaa-[b]bbb tt 2 LN MSG:  
{PEST|FAIL|OOS} 00 EOM

[O.53103]

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNIT [q]q COMPL

## Hierarchical

If the unit number is not entered, the following output segments will be generated:

The output starts out with:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} \  
g h i j k l m n o p EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} 3 LN MSG:  
SYNC x x CRO x  
TLI x x x x x x x x x x x x x x EOM
```

For DACS II Non-CEF frames, the next segment describes the CCN hardware:

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} TOTAL \  
TSIS tt nn 5 LN MSG:  
11 x x 12 x x 13 x x 14 x x 15 x x 16 x x  
21 x x 22 x x 23 x x 24 x x 25 x x 26 x x  
31 x x 32 x x 33 x x 34 x x 35 x x 36 x x  
41 x x 42 x x 43 x x 44 x x 45 x x 46 x x EOP
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} TOTAL \  
TSIS tt nn 3 LN MSG:  
51 x x 52 x x 53 x x 54 x x 55 x x 56 x x  
61 x x 62 x x 63 x x 64 x x 65 x x 66 x x EOM
```

For DACS II CEF frames, the segment describes the ECCN hardware:

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} TOTAL \  
ETISIS tt nn 3 LN MSG:  
01 x x 02 x x 03 x x 04 x x 05 x x 06 x x \  
07 x x 08 x x  
09 x x 10 x x 11 x x 12 x x 13 x x 14 x x \  
15 x x 16 x x EOM
```

The output then continues with information about the common equipment in the units. The data line will only appear for units that are equipped. If more than four units are equipped, the output for the equipage of the units will be divided into multiple messages.

[O.53103]

```
[M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNITS e LN MSG:]
[<data line for the common equipment in the first equipped unit>]
[<data line for the common equipment in the second equipped unit>]
[<data line for the common equipment in the third equipped unit>]
[<data line for the common equipment in the fourth equipped unit> EOM]
```

```
[M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNITS e LN MSG:]
[<data line for the common equipment in the fifth equipped unit>]
[<data line for the common equipment in the sixth equipped unit>]
[<data line for the common equipment in the seventh equipped unit>]
[<data line for the common equipment in the eighth equipped unit> EOM]
```

```
[M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNITS e LN MSG:]
[<data line for the common equipment in the ninth equipped unit>]
[<data line for the common equipment in the tenth equipped unit>]
[<data line for the common equipment in the eleventh equipped unit>]
[<data line for the common equipment in the twelfth equipped unit> EOM]
```

```
[M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNITS e LN MSG:]
[<data line for the common equipment in the thirteenth equipped unit>]
[<data line for the common equipment in the fourteenth equipped unit>]
[<data line for the common equipment in the fifteenth equipped unit>]
[<data line for the common equipment in the sixteenth equipped unit> EOM]
```

Data line for a unit equipped as DS1 FTU:

```
UNIT [q]q UC a FTMI b c d e FC f g h j k m p q[ CCB r s]
```

Data line for a unit equipped as a DS3U:

```
UNIT [q]q UC a FLI b c FMT l m MXR d e f g h j k \
MIU n o p q u v w[ CCB r s]
```

Data line for a unit equipped as a DSPU:

```
UNIT [q]q UC a DSPI b[ CCB r s]
```



Then the output message continues with information about individual NPCs. For each FTM/MXR (or unit in the case of a DSPU), one output message will be printed.

For PEST, FAIL, or OOS status of NPCs on an equipped DS1 FTM:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} FTU \
NPCS uvmnp-uxkqr tt 5 LN MSG:
x x x x x x x x x x {PEST|FAIL|OOS} nn
x x x x x x x x x x
x x x x x x x x x x
x x x x x x x x x x EOM
```

For PEST, FAIL, or OOS status of NPCs on an equipped DS3 MXR:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} DS3U \
NPCS uvmnp-uxkqr tt 5 LN MSG:
x x x x x x x {PEST|FAIL|OOS} nn
x x x x x x x
x x x x x x x
x x x x x x x EOM
```

For PEST, FAIL, or OOS status of NPCs on an equipped DSP unit:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} DSPU \
NPCS uvmnp-uxkqr tt 3 LN MSG:
uvmnp x x uvmnp x x uvmnp x x uvmnp x x
uvmnp x x uvmnp x x uvmnp x x uvmnp x x \
{PEST|FAIL|OOS} nn EOM
```

Output message for an equipped FTM/MXR/DSPU with no NPC having the PEST, FAIL, or OOS status:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} {FTU|DS3U|DSPU} \
NPCS uvmnp-uxkqr tt 2 LN MSG:
{PEST|FAIL|OOS} 00 EOM
```

After the above information is output, the following message will be generated to complete the response:

[O.53103]

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} COMPL

If the unit number is specified, the following output segments will be generated:

For entities in an FTU:

[O.53103]

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} 2 LN MSG:  
UNIT [q]q UC a FTMI b c d e FC f g h j k m p q[ CCB r s] EOM

The output then continues with up to four of the following segment for NPCs in an FTM. If an FTM is not equipped, the segment for this FTM will not be output:

[O.53103]

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNIT [q]q FTU \  
NPCS uvmpn-uxkqr tt 5 LN MSG:  
x x x x x x x x x x {PEST|FAIL|OOS} nn  
x x x x x x x x x x  
x x x x x x x x x x  
x x x x x x x x x x EOM

For entities in a DS3U:

[O.53103]

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} 2 LN MSG:  
UNIT [q]q UC a FLI b c FMT l m MXR d e f g h j k \  
MIU n o p q u v w[ CCB r s] EOM

The output then continues with up to seven of the following segment for NPCs in a MXR. If an MXR is not equipped, the segment for this MXR will not be output:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNIT [q]q \
DS3U NPC5 uvmnp-uxkqr tt 5 LN MSG:
x x x x x x {PEST|FAIL|OOS} nn
x x x x x x
x x x x x x
x x x x x x EOM
```

For entities in a DSPU:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNIT [q]q UC a \
DSP1 b[ CCB r s] EOM

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNIT [q]q \
DSPU NPC5 uvmnp-uxkqr tt 3 LN MSG:
uvmnp x x uvmnp x x uvmnp x x uvmnp x x
uvmnp x x uvmnp x x uvmnp x x uvmnp x x \
{PEST|FAIL|OOS} nn EOM
```

Output message for an equipped FTM/MXR/DSPU with no NPC having the PEST, FAIL, or OOS status:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} {FTU|DS3U|DSPU} \
NPC5 uvmnp-uxkqr tt 2 LN MSG:
{PEST|FAIL|OOS} 00 EOM
```

After the above information is output, the following message will be generated to complete the response:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNIT [q]q COMPL
```

## Denial Message

---

[O.53103.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNIT [q]q COND cc DNY
```

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

The UNIT option is specified to query that unit. The UNIT field will be null when the command is used for the entire frame. If the UNIT option is specified, only the information related to the equipment in that unit will be generated.

**OOS** - Out of service

Out of Service Components

**FAIL** - Failed

Failed Components

**PEST** - Pested

Pest States

For the OOS, FAIL and PEST indications, each entity in the DACS II frame is represented by a single character variable. This variable can have the value of 1, 0 or "-" indicating the following status:

| <i>Value</i> | <i>OOS</i>     | <i>FAIL</i>    | <i>PEST</i>    |
|--------------|----------------|----------------|----------------|
| 1            | out of service | failed         | pested         |
| 0            | in service     | not failed     | unpested       |
| -            | not applicable | not applicable | not applicable |

A hyphen (-) indicates the parameter is not applicable to the particular entity. For example, an unequipped circuit displays a "-" for its OOS, FAIL and PEST indicators.

The DACS II entities and their status fields are as follows:

**g** - Link 1  
**h** - Link 2  
**i** - Link 3  
**j** - Link 4  
**k** - Link 5  
**l** - Link 6  
**m** - XC0 (cross-connect 0)  
**n** - XC1 (cross-connect 1)  
**o** - CCNI/CCI 0 (cross-connect network interface 0 for non-CEF frame)  
(clock and control interface 0 for CEF frame)  
**p** - CCNI/CCI 1 (cross-connect network interface 1 for non-CEF frame)  
(clock and control interface 1 for CEF frame)

**SYNC** - Synchronizer

**CRO** - Clock reference oscillator

**TLI** - Timing link interface

The order of the TLI presented in the output is shown below:

**TLI 1, SSP 0, Side 0**  
**TLI 1, SSP 1, Side 0**  
**TLI 2, SSP 0, Side 0**  
**TLI 2, SSP 1, Side 0**  
**TLI 3, SSP 0, Side 0**  
**TLI 3, SSP 1, Side 0**  
**TLI 4, SSP 0, Side 0**  
**TLI 4, SSP 1, Side 0**

**TLI 1, SSP 0, Side 1**  
**TLI 1, SSP 1, Side 1**  
**TLI 2, SSP 0, Side 1**  
**TLI 2, SSP 1, Side 1**  
**TLI 3, SSP 0, Side 1**  
**TLI 3, SSP 1, Side 1**  
**TLI 4, SSP 0, Side 1**  
**TLI 4, SSP 1, Side 1**

**TSIS** - Time slot interchanges NonCEF

**f** - FROM unit (1 through 6) NonCEF

**t** - TO Unit (1 through 6) NonCEF

**ETSIS** - Expanded time slot interchangers

- x** - Status of the entity or the side 0 entity if the entity is duplicated
- x** - Status of the side 1 entity
- tt** - Total number of equipped entities
- nn** - Total number of entities having the requested status
- UC** - Unit controller
- FTMI** - Facility terminating module interface
- FC** - Format converter
- CCB** - Cross-connect buffer

For an FTU equipment output, the definition of each character is given below:

- a** - status of UC
- b** - status of FTMI 1
- c** - status of FTMI 2
- d** - status of FTMI 3
- e** - status of FTMI 4
- f** - status of FC 01
- g** - status of FC 11
- h** - status of FC 02
- j** - status of FC 12
- k** - status of FC 03
- m** - status of FC 13
- p** - status of FC 04
- q** - status of FC 14
- r** - status of side 0 CCB
- s** - status of side 1 CCB
- FLI** - Facility line interface
- FMT** - Formatter
- MXR** - Multiplexer
- MIU** - Multiple interface unit

For a DS3U equipment output, the definition of each character is given below:

- a - status of UC
- b - status of service FLI
- c - status of protection FLI
- d - status of protection MXR
- e - status of MXR 1
- f - status of MXR 2
- g - status of MXR 3
- h - status of MXR 4
- j - status of MXR 5
- k - status of MXR 6
- l - status of side 0 FMT
- m - status of side 1 FMT
- n - status of protection MIU
- o - status of MIU 1
- p - status of MIU 2
- q - status of MIU 3
- u - status of MIU 4
- v - status of MIU 5
- w - status of MIU 6
- r - status of side 0 CCB
- s - status of side 1 CCB

**DSPI** - Digital signal processing interface

For a DSPU equipment output, the definition of each character is as below:

- a - status of UC
- b - status of DSPI
- r - status of side 0 CCB
- s - status of side 1 CCB

- [a]aaa** - The first 3- or 4-digit nonhierarchical NPC number of an FTM/MXR/DSPU.
- [b]bbb** - The last 3- or 4-digit nonhierarchical NPC number of an FTM/MXR/DSPU.

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |
| <b>16A-16H</b>               | <b>32A-32H</b>               | <b>48A-48H</b>               | <b>64A-64H</b>               | <b>80A-80H</b>               | <b>96A-96H</b>               |



If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

| Unit<br>1                                                                                                                  | Unit<br>2                                                                                                                  | Unit<br>3                                                                                                                  | Unit<br>4                                                                                                                  | Unit<br>5                                                                                                                  | Unit<br>6                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <b>NPC</b><br><b>001</b><br><b>021</b><br><b>041</b><br><b>061</b><br><b>081</b><br><b>101</b><br><b>121</b><br><b>141</b> | <b>NPC</b><br><b>161</b><br><b>181</b><br><b>201</b><br><b>221</b><br><b>241</b><br><b>261</b><br><b>281</b><br><b>301</b> | <b>NPC</b><br><b>321</b><br><b>341</b><br><b>361</b><br><b>381</b><br><b>401</b><br><b>421</b><br><b>441</b><br><b>461</b> | <b>NPC</b><br><b>481</b><br><b>501</b><br><b>521</b><br><b>541</b><br><b>561</b><br><b>581</b><br><b>601</b><br><b>621</b> | <b>NPC</b><br><b>641</b><br><b>661</b><br><b>681</b><br><b>701</b><br><b>721</b><br><b>741</b><br><b>761</b><br><b>781</b> | <b>NPC</b><br><b>801</b><br><b>821</b><br><b>841</b><br><b>861</b><br><b>881</b><br><b>901</b><br><b>921</b><br><b>941</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB, SR, and MJ type NPC numbers listed by unit number,  
Unit Type DP (DSPU)

| Unit<br>1   | Unit<br>2   | Unit<br>3   | Unit<br>4   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0001</b> | <b>0161</b> | <b>0321</b> | <b>0481</b> |
| <b>0021</b> | <b>0181</b> | <b>0341</b> | <b>0501</b> |
| <b>0041</b> | <b>0201</b> | <b>0361</b> | <b>0521</b> |
| <b>0061</b> | <b>0221</b> | <b>0381</b> | <b>0541</b> |
| <b>0081</b> | <b>0241</b> | <b>0401</b> | <b>0561</b> |
| <b>0101</b> | <b>0261</b> | <b>0421</b> | <b>0581</b> |
| <b>0121</b> | <b>0281</b> | <b>0441</b> | <b>0601</b> |
| <b>0141</b> | <b>0301</b> | <b>0461</b> | <b>0621</b> |
| Unit<br>5   | Unit<br>6   | Unit<br>7   | Unit<br>8   |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0641</b> | <b>0801</b> | <b>0961</b> | <b>1121</b> |
| <b>0661</b> | <b>0821</b> | <b>0981</b> | <b>1141</b> |
| <b>0681</b> | <b>0841</b> | <b>1001</b> | <b>1161</b> |
| <b>0701</b> | <b>0861</b> | <b>1021</b> | <b>1181</b> |
| <b>0721</b> | <b>0881</b> | <b>1041</b> | <b>1201</b> |
| <b>0741</b> | <b>0901</b> | <b>1061</b> | <b>1221</b> |
| <b>0761</b> | <b>0921</b> | <b>1081</b> | <b>1241</b> |
| <b>0781</b> | <b>0941</b> | <b>1101</b> | <b>1261</b> |
| Unit<br>9   | Unit<br>10  | Unit<br>11  | Unit<br>12  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1281</b> | <b>1441</b> | <b>1601</b> | <b>1761</b> |
| <b>1301</b> | <b>1461</b> | <b>1621</b> | <b>1781</b> |
| <b>1321</b> | <b>1481</b> | <b>1641</b> | <b>1801</b> |
| <b>1341</b> | <b>1501</b> | <b>1661</b> | <b>1821</b> |
| <b>1361</b> | <b>1521</b> | <b>1681</b> | <b>1841</b> |
| <b>1381</b> | <b>1541</b> | <b>1701</b> | <b>1861</b> |
| <b>1401</b> | <b>1561</b> | <b>1721</b> | <b>1881</b> |
| <b>1421</b> | <b>1581</b> | <b>1741</b> | <b>1901</b> |

| Unit<br>13  | Unit<br>14  | Unit<br>15  | Unit<br>16  |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1921</b> | <b>2081</b> | <b>2241</b> | <b>2401</b> |
| <b>1941</b> | <b>2101</b> | <b>2261</b> | <b>2421</b> |
| <b>1961</b> | <b>2121</b> | <b>2281</b> | <b>2441</b> |
| <b>1981</b> | <b>2141</b> | <b>2301</b> | <b>2461</b> |
| <b>2001</b> | <b>2161</b> | <b>2321</b> | <b>2481</b> |
| <b>2021</b> | <b>2181</b> | <b>2341</b> | <b>2501</b> |
| <b>2041</b> | <b>2201</b> | <b>2361</b> | <b>2521</b> |
| <b>2061</b> | <b>2221</b> | <b>2381</b> | <b>2541</b> |

**[z]zzz** - The 3- or 4-digit nonhierarchical DSPU NPC number, the span refers to the odd DSPU circuit pack NPCs, and the total is the number of NPC pairs equipped.

**uvmnp** - The first hierarchical NPC number of an FTM/MXR or a hierarchical DSPU NPC number.

**uxkqr** - The last hierarchical NPC number of an FTM/MXR or a hierarchical DSPU NPC number.

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

MB, SR, and MJ type numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

| Unit         | Module     | NPC       |
|--------------|------------|-----------|
| <b>01-16</b> | <b>1-8</b> | <b>01</b> |

**cc** - Hexadecimal condition code

**cc** *Explanation*

**02** Subject entity is not equipped

## **UTL, QRY, PMSCHED, NPC, ALL**

### **QUERY DS1 PERFORMANCE MONITORING REPORT SCHEDULE**

#### **Explanation Of Command**

This message retrieves information on the user-programmed schedule of autonomous performance monitoring reports, which DACS II will generate for DA and TA type NPCs. The user may retrieve the PM report schedule information for a single, a range or all applicable NPCs on the frame.

This command will handle NPC addressing in the input command as follows:

If only a single NPC is addressed in the input command, and it is of an applicable type, then a completion response will be generated. The choice of completion response depends on if any scheduled report exists for that NPC. If the NPC type is not applicable, DACS II will always deny invalid commands to a specifically addressed NPC.

If a range of NPCs is addressed, and one or more NPCs within the range is of applicable types, DACS II will retrieve the information for each of the NPCs in the range that support this feature, but skip the NPCs which do not support this feature. DACS II provides a variety of line termination types which support different features and can be randomly mixed within the frame. If at least one of the NPCs in the addressed range supports this feature, DACS II will generate a completion response with one output segment containing the information for each applicable NPC in the range; individual denial responses will not be generated for NPCs within the range which do not support the feature. If *none* of the NPCs in the addressed range supports the requested feature, DACS II will generate a range denial response.

If the 'ALL' option is used, and there is one or more PM report schedule(s) on the frame, DACS II will response by echoing all the PM report data as they were entered when the report was scheduled, with the current NI and RT values , and omitting the inhibit information. The output information is necessary for a PM report to be deleted. If there are

no applicable NPC types on the DACS II frame, the response will be a denial.

### **Command**

---

#### **Nonhierarchical**

---

[I.51151]

UTL:FRM xy,SEQ ww:QRY,PMSCHED,{NPC [s]abc[-[t]def]|ALL}!

#### **Hierarchical**

---

[I.51151]

UTL:FRM xy,SEQ ww:QRY,PMSCHED,{NPC uvmnp[-wxkqr]|ALL}!

### **Completion Message**

---

#### **Nonhierarchical**

---

Output message when there are no scheduled reports for the addressed NPCs:

[O.51151]

M hh:mm:ss xy,ww n[vv] UTL QRY PMSCHED {NPC [s]abc[-[t]def]|ALL} 000 COMPL

Output message for one or a range of NPCs, and there is at least one schedule to report:

[O.51151]

M hh:mm:ss xy,ww n[vv] UTL QRY PMSCHED NPC [v]ghi RI rrrrr 3 LN MSG:  
RD dddd RT cccc NI nn <parameter> LV llllllllll LOCN locn AI aaaaa  
TOF ttttt[-ooooo] IM iii[ LK p[vv][ q[vv]]] EOM

.  
.  
.

[M hh:mm:ss xy,ww n[vv] UTL QRY PMSCHED NPC [u]jkl RI rrrrr 3 LN MSG:]  
[RD dddd RT cccc NI nn <parameter> LV llllllllll LOCN locn AI aaaaa]  
[TOF ttttt[-ooooo] IM iii[ LK p[vv][ q[vv]]] EOM]

M hh:mm:ss xy,ww n[vv] UTL QRY PMSCHED NPC [s]abc[-[t]def] COMPL

Output message for 'ALL' NPCs, and there is at least one schedule to report:

[O.51151]

M hh:mm:ss xy,ww n[vv] UTL QRY PMSCHED NPC [v]ghi[-[u]jkl] RI rrrrr 3 LN MSG:  
RD dddd RT cccc NI nn <parameter> LV llllllllll LOCN locn AI aaaaa  
TOF ttttt[-ooooo][ LK p[vv][ q[vv]]] EOM

.  
.  
.

[M hh:mm:ss xy,ww n[vv] UTL QRY PMSCHED NPC [v]ghi[-[u]jkl] RI rrrrr 3 LN MSG:]  
[RD dddd RT cccc NI nn <parameter> LV llllllllll LOCN locn AI aaaaa]  
[TOF ttttt[-ooooo][ LK p[vv][ q[vv]]] EOM]

M hh:mm:ss xy,ww n[vv] UTL QRY PMSCHED ALL COMPL

### **Hierarchical**

Output message when there are no scheduled reports for the addressed NPCs:

[O.51151]

M hh:mm:ss xy,ww n[vv] UTL QRY PMSCHED {NPC uvmnp[-wxkqr]|ALL} 000 COMPL

Output message for one or a range of NPCs, and there is at least one schedule to report:

[O.51151]

M hh:mm:ss xy,ww n[vv] UTL QRY PMSCHED NPC edhfg RI rrrrr 3 LN MSG:  
RD dddd RT cccc NI nn <parameter> LV llllllllll LOCN locn AI aaaaa  
TOF ttttt[-ooooo] IM iii[ LK p[vv][ q[vv]]] EOM

.  
.  
.

[M hh:mm:ss xy,ww n[vv] UTL QRY PMSCHED NPC opjst RI rrrrr 3 LN MSG:]  
[RD dddd RT cccc NI nn <parameter> LV llllllllll LOCN locn AI aaaaa]  
[TOF ttttt[-ooooo] IM iii[ LK p[vv][ q[vv]]] EOM]

M hh:mm:ss xy,ww n[vv] UTL QRY PMSCHED NPC uvmnp[-wxkqr] COMPL

Output message for 'ALL' NPCs, and there is at least one schedule to report:

[O.51151]

M hh:mm:ss xy,ww n[vv] UTL QRY PMSCHED NPC edhfg[-opjst] RI rrrrr 3 LN MSG:  
RD dddd RT cccc NI nn <parameter> LV llllllllll LOCN locn AI aaaaa  
TOF ttttt[-ooooo][ LK p[vv][ q[vv]]] EOM

.  
.  
.

[M hh:mm:ss xy,ww n[vv] UTL QRY PMSCHED NPC edhfg[-opjst] RI rrrrr 3 LN MSG:]  
[RD dddd RT cccc NI nn <parameter> LV llllllllll LOCN locn AI aaaaa]  
[TOF ttttt[-ooooo][ LK p[vv][ q[vv]]] EOM]

M hh:mm:ss xy,ww n[vv] UTL QRY PMSCHED ALL COMPL

### **Denial Message**

---

#### **Nonhierarchical**

---

[O.51151.01]

M hh:mm:ss xy,ww n[vv] UTL QRY PMSCHED {NPC [s]abc[-[t]def]|ALL} COND cc DNY

#### **Hierarchical**

---

[O.51151.01]

M hh:mm:ss xy,ww n[vv] UTL QRY PMSCHED {NPC uvmpn[-wxkqr]|ALL} COND cc DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical starting NPC number

[t]def - The 3- or 4-digit nonhierarchical ending NPC number

The valid values are:

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |



If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical starting NPC number

**wxkqr** - Hierarchical ending NPC number

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ALL** - All report schedules are queried for all NPCs.  
Each scheduled report is displayed with its range of NPCs.

[v]ghi - The 3- or 4-digit nonhierarchical NPC number ([s]abc through [u]jkl)

[u]jkl - The 3- or 4-digit nonhierarchical NPC number ([v]ghi through [t]def)  
Or range of NPCs for a scheduled report, if ALL NPCs are queried.

edhfg - Hierarchical NPC number (uvmnp through opjst)

opjst - Hierarchical NPC number (edhfg through wxkqr)  
Or range of NPCs for a scheduled report, if ALL NPCs are queried.

**RI** - Report interval

**rrrrr** - The interval between performance monitoring reports

| <i>rrrrr</i> | <i>Explanation</i>         |
|--------------|----------------------------|
| {0001-1440}M | Report interval in minutes |
| {0001-0024}H | Report interval in hours   |
| {0001-0007}D | Report interval in days    |

**RD** - Report date

**dddd** - The date for the next performance monitoring report.

| <i>dddd</i>    | <i>Explanation</i>                |
|----------------|-----------------------------------|
| {01-12}{01-31} | Month of Year/Day of Month Format |

**RT** - Report time

**cccc** - The time of day for the next performance monitoring report.

| <i>cccc</i>    | <i>Explanation</i>                |
|----------------|-----------------------------------|
| {00-23}{00-59} | Hour of Day/Minute of Hour Format |

**NI** - Number of intervals

**nn** - The remaining number of intervals over which performance monitoring is to be reported. If this parameter is CT, the performance monitoring schedule will remain in effect until the schedule is canceled using another "Schedule PM Report" command.

| <i>nn</i> | <i>Explanation</i>                 |
|-----------|------------------------------------|
| {01-96}   | Finite number of scheduled reports |
| CT        | Continuous reports until cancelled |

**parameter**

- The parameter for which reporting is being scheduled.

| <i>parameter</i> | <i>Explanation</i>                    |
|------------------|---------------------------------------|
| CVP              | Path Coding Violations                |
| CVL              | Line Coding Violations                |
| ESP              | Path Errored Seconds                  |
| ESL              | Line Errored Seconds                  |
| SESP             | Path Severely Errored Seconds         |
| SESL             | Line Severely Errored Seconds         |
| SEFS             | Path Severely Errored Framing Seconds |
| CSS              | Path Controlled Slip Seconds          |
| UAS              | Path Unavailable Seconds              |
| ALLPAR           | All listed parameters                 |

**LV** - Level

**llllllllll**

- The discriminating level for the requested parameter.

| <i>llllllllll</i>      | <i>Explanation</i>                  |
|------------------------|-------------------------------------|
| {000000000-134217728}U | Discriminating Level-Up Direction   |
| {000000000-134217728}D | Discriminating Level-Down Direction |

Up - Parameters with values equal to or greater than the "discriminating level" specified are reported.

Down - Parameters with values equal to or less than the "discriminating level" specified are reported.

**LOCN** - Location

**locn** - The location being performance monitored.

*locn Explanation*

NEND Near-end

FEND Far-end

**AI** - Accumulation interval

**aaaaa** - The accumulation time period for the specified parameter.

*aaaaa Explanation*

15MIN Parameter count from a 15-minute accumulator

DAILY Parameter count from a daily accumulator

**TOF** - Time offset

**ttttt** - The age of the requested data registers(s) at the reporting time, measured backwards in time from the end of last completed accumulation interval to the beginning of the requested interval.

**ooooo** - If the report interval is an integral number of accumulation intervals, this parameter specifies a range of up to four historical data registers per scheduled report.

*tttt,ooooo Explanation*

{0-7}{00-23}{00,15,30,45,60} Day/Hour/Minute

If the value 7 is given for day, then Hour and Minute must be zero.

To produce reports that contain historical data of completed accumulation intervals, the scheduled report times (set up with "start time" and "report interval") usually coincide with the end of accumulation intervals, and the time offset must be an integral number of accumulation intervals.

A time offset value of 00000 or any value less than the accumulation interval produces a report that contains data from the current register.

**IM** - Inhibit Mode

**iii** - Indicates whether the reporting of performance monitoring data for the facility is currently inhibited or enabled. This information shall be omitted for the 'ALL' case.

*iii Explanation*

ALW Performance monitoring reporting is allowed

INH Performance monitoring reporting is inhibited

**LK** - Link

**p[vv]** - Up to two administrative links to which the scheduled report output will be transmitted. The user may omit these optional parameters, specify a single link, or specify two links which will both receive all output generated by this scheduled report. If these optional parameters are omitted, the scheduled report output will by default be transmitted only to the link that the schedule command was received on.

**cc** - Hexadecimal condition code

**cc** *Explanation*

**15** NPC is unequipped

**26** NPC type error

**A1** The parameter specified does not match with the NPC type

**0F** Frame time is not set

**1F** Scheduled reporting for this npc is inhibited

## UTL, QRY, PSTATE, UNIT

### QUERY UNIT PROTECTION STATE

#### Explanation Of Command

This message reports the maintenance and protection state for the facility line interface (FLI) circuit pack and for the multiplexer multiple-line interface functional group (MMFG) pack in a DS3 unit. It also indicates whether alarm generation for unprotected DS3 (due to manual commands) is enabled or disabled. The enabling/disabling of alarm generation applies to all DS3Us in the DACS frame. It is not on a per DS3U basis.

#### Command

[I.56511]

UTL:FRM xy,SEQ ww:QRY,PSTATE,UNIT [q]q!

#### Completion Message

[O.56511]

M hh:mm:ss xy,ww n[vv] UTL QRY PSTATE UNIT [q]q FLI 4 LN MSG:

S P  
<vvv> <vvv>  
<zzzz> <zzzz> EOM

M hh:mm:ss xy,ww n[vv] UTL QRY PSTATE UNIT [q]q MMFG P-6 6 LN MSG:

|        |        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|--------|
| <xxxx> | <xxxx> | <xxxx> | <xxxx> | <xxxx> | <xxxx> | <xxxx> |
| <yyyy> | <yyyy> | <yyyy> | <yyyy> | <yyyy> | <yyyy> | <yyyy> |
| <bbbb> | <aaaa> | <aaaa> | <aaaa> | <aaaa> | <aaaa> | <aaaa> |
| ccc    | ccc    | ccc    | ccc    | ccc    | ccc    | ccc    |

DS3UNPROTALM <dd> COMPL

### **Denial Message**

---

[O.56511.01]

M hh:mm:ss xy,ww n[vv] UTL QRY PSTATE UNIT [q]q COND cc DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**PSTATE** - Protection state

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**S** - Service

**P** - Protection

**FLI** - Facility line interface

**vvv** - FLI maintenance state

*vvv Explanation*

IS In-service

ISF In-service failed or pested

OOS Out-of-service

**zzzz** - FLI protection state

*zzzz Explanation*

SLT Selected (designated to carry service)

USLT Unselected (not designated to carry service)

**MMFG** - Multiplexer-multiplexer interface unit functional group

**xxxx** - Multiplexer (MXR) maintenance state

*xxxx Explanation*

IS In service

ISF In service Failed/Pested

OOS Out of service

UEQD Not equipped (not possible for a protection MXR)

**yyyy** - Multiplexer interface unit maintenance state

**yyyy** *Explanation*

|      |                          |
|------|--------------------------|
| IS   | In service               |
| ISF  | In service failed/pested |
| OOS  | Out of service           |
| UEQD | Not equipped             |

**aaaaa** - Service MMFG protection state

**aaaaa** *Explanation*

|       |                                                                                                                                                |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------|
| SALW  | The service MMFG is selected to carry service, and protection switching is ALLOWED                                                             |
| SINH  | The service MMFG is selected to carry service, and AUTOMATIC protection switching is INHIBITED. Manual switching is permitted.                 |
| MPALW | The facility on this MMFG is being served by the protection pack as a result of a manual switch command, and automatic switchback is ALLOWED   |
| APALW | The facility on this MMFG is being served by the protection pack as a result of an automatic switch, and automatic switchback is ALLOWED       |
| MPINH | The facility on this MMFG is being served by the protection pack as a result of a manual switch command, and automatic switchback is INHIBITED |
| APINH | The facility on this MMFG is being served by the protection pack as a result of an automatic switch, and automatic switchback is INHIBITED     |
| ----  | The service MXR is not equipped                                                                                                                |

**bbbb** - Selection status of the protection MMFG

**bbbb** *Explanation*

|      |                                              |
|------|----------------------------------------------|
| SLT  | Selected (designated to carry service)       |
| USLT | Unselected (not designated to carry service) |

**ccc** - Availability of protection switch in case of failure:

**ccc** *Explanation*

|     |                                                                                                            |
|-----|------------------------------------------------------------------------------------------------------------|
| AVL | Protection switch available                                                                                |
| NVL | Protection switch not available (if the aaaa field is SINH, MPINH or APINH, this field will always be NVL) |
| --- | The MMFG is not selected                                                                                   |

**COND** - Condition



**DS3UNPROTALM**

- DS3 Unprotected Alarm

**dd**                      *Explanation*

ON      Enabled.

Alarm will be generated when DS3 service is unprotected due to manual commands.

OFF     Disabled.

Alarm will not be generated when DS3 service is unprotected due to manual commands.

**cc**      - Hexadecimal condition code

**cc**      *Explanation*

**02**      Subject entity is not equipped

## **UTL, QRY, ROLL, DS0, NPC, ALL, UNIT**

### **UTILITY QUERY ROLL DS0**

#### **Explanation Of Command**

This command is used to request a report on the roll status of all of the channels in a network processing circuit (NPC). The roll status request may be for a single NPC, a range of NPCs, all NPCs in a unit, or all NPCs in the DACS II frame.

The output message shows the correspondence between the bridge and service legs of the Roll procedure. Original Service and Original Bridged leg refer to the service and bridged leg designations created by the Bridge step of the Roll procedure. New Service and New Bridged leg refer to the service and bridged leg designations created by the Roll step of the Roll procedure.

The output message displays the roll status of each of the 24 channels of an NPC.

The top left position corresponds to channel one of the NPC and the bottom right position corresponds to channel twenty-four of the NPC. All dashes are displayed if there is neither a Service leg nor a Bridged leg associated with a channel.

The display is repeated for each NPC in the range.  
If there are no rolled channels on an NPC within a range, then no roll status output will be generated for that NPC.

**Note:** The processing time to query the roll status of a fully equipped frame could exceed 9 minutes.

The specified NPC range can cross a unit boundary and is applicable to facility terminating unit (FTU) and DS3 unit (DS3U) types.

## **Command**

---

### **Nonhierarchical**

---

[I.52081]

UTL:FRM xy,SEQ ww:QRY,ROLL,DS0,{NPC [s]abc[-[t]def]|ALL[,UNIT [q]q]}!

### **Hierarchical**

---

[I.52081]

UTL:FRM xy,SEQ ww:QRY,ROLL,DS0,{NPC uvmp[-wxkqr]|ALL[,UNIT [q]q]}!

## **Completion Message**

---

### **Nonhierarchical**

---

The output message in nonhierarchical PDS form will span one output segment per NPC.

If the 3- or 4-digit nonhierarchical NPC number is used, the output will be six channels per line as shown below:

[O.52081]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS0 NPC [s]abc 5 LN MSG:
rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj
rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj
rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj
rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj EOM
```

.  
.  
.

```
[M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS0 NPC [t]def 5 LN MSG:
rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj
rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj
rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj
rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj rr[u]ghijj EOM]
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS0 {NPC [s]abc[-[t]def]|\
ALL[ UNIT [q]q]} COMPL
```

## **Hierarchical**

---

The output message in hierarchical PDS form will span one output segment per NPC.

If a hierarchical NPC number is used, the output will be six channels per line as shown below:

[O.52081]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS0 NPC uvmnp 5 LN MSG:
rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj
rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj
rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj
rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj EOM
```

.  
.  
.

```
[M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS0 NPC wxkqr 5 LN MSG:
rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj
rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj
rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj
rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj EOM]
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS0 {NPC uvmnp[-wxkqr]}|\
ALL[ UNIT [q]q]} COMPL
```

## **Denial Message**

---

Not applicable.

## **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

**[s]abc** - 3- or 4-digit nonhierarchical NPC number, the first number of a range or a single NPC number.

**[t]def** - 3- or 4-digit nonhierarchical NPC number, the last number of a range.

**ALL** - All  
Keyword indicating that all NPCs in the frame are being queried for Roll status.

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

Keyword used to limit query to all NPCs in a Unit.

**[u]ghi** - The 3- or 4-digit nonhierarchical NPC number of the Service or Bridged channel associated with the queried NPC.

**ghikl** - Hierarchical NPC number of the Service or Bridged leg associated with the queried NPC

**jjj** - Channel number of the Service or Bridged leg associated with the queried NPC

**rr** - The Roll status of a channel interpreted as follows:

*rr*      *Type of Leg*

OS      Indicates that channel [u]ghijjj or ghikljjj is the Original Service leg and the corresponding channel is the Original Bridged leg.

NS      Indicates that channel [u]ghijjj or ghikljjj is the New Service leg and the corresponding channel is the New Bridged leg.

OB      Indicates that channel [u]ghijjj or ghikljjj is the Original Bridged leg and the corresponding channel is the Original Service leg.

NB      Indicates that channel [u]ghijjj or ghikljjj is the New Bridged leg and the corresponding channel is the New Service leg.

--      Indicates that the channel is not a Service or Bridged leg

**uvmnp** - Hierarchical NPC number, the first number of a range or a single NPC number

**wxkqr** - Hierarchical NPC number, the last number of a range

**uv, wx** - Unit number  
**m, k** - Module number  
**np, qr** - NPC number within the module

**Note:** Valid NPC types for DS0 Roll are DExyz (except DE9y9), TExyz (except TE9y9), DAxyz (except DAxy9), and TAxzy (except TAxzy9).

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

If NPC numbers are expressed in hierarchical form, the valid values are:

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |



## **UTL,QRY,ROLL,DS1,NPC,ALL,UNIT**

### **UTILITY QUERY ROLL DS1**

#### **Explanation Of Command**

This command is used to request a report on the roll status of DS1 facilities.

The roll status request may be for a single network processing circuit (NPC), a range of NPCs, all NPCs in a unit, or all NPCs in the DACS II frame. The output message shows the correspondence between the bridge and service facilities of the Roll procedure.

Original Service and Original Bridged facility refer to the service and bridged facility designations created by the Bridge step of the Roll procedure.

New Service and New Bridged facility refer to the service and bridged facility designations created by the Roll step of the Roll procedure.

The output message displays the roll status of each of the NPCs in a Facility Terminating Module (FTM) or DS3.

The top left position corresponds to the first NPC in the FTM or DS3 and the bottom right position corresponds to the last NPC in that FTM or DS3. All dashes are displayed if there is neither a Service facility nor a Bridged facility associated with an NPC.

The display is repeated for each FTM or DS3 in the range.

If the range queried in the input message is a subset of an FTM or DS3, all NPCs of that FTM or DS3 will still be displayed.

If there are no rolled channels in an FTM or DS3, then no roll status output will be generated for that FTM or DS3.

The specified NPC range can cross a unit boundary and is applicable to facility terminating unit (FTU) and DS3 unit (DS3U) types.

If only one NPC is queried, then the output display will be one line with the roll status information for the requested NPC.

## Command

### Nonhierarchical

[I.52091]

UTL:FRM xy, SEQ ww:QRY, ROLL, DS1, {NPC [s]abc[-[t]def]|ALL[, UNIT [q]q]}!

### Hierarchical

[I.52091]

UTL:FRM xy, SEQ ww:QRY, ROLL, DS1, {NPC uvmnp[-wxkqr]|ALL[, UNIT [q]q]}!

## Completion Message

### Nonhierarchical

The output message in nonhierarchical PDS form will span one output segment per FTM for FTU NPC ranges, one output segment per DS3 for DS3U NPC ranges, and one line for a single FTU or DS3U NPC.

If the 3- or 4-digit nonhierarchical NPC number in an FTU range is used, the output will be ten NPCs per line as shown below:

[O.52091]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS1 FTU NPC [a]aaa-[b]bbb 5 LN MSG:
rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi \
rr[u]ghi rr[u]ghi
rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi \
rr[u]ghi rr[u]ghi
rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi \
rr[u]ghi rr[u]ghi
rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi \
rr[u]ghi rr[u]ghi EOM
```

```

      .
      .
      .

```

**M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS1 {NPC [s]abc-[t]def|\  
ALL[ UNIT [q]q]} COMPL**

If the 3- or 4-digit nonhierarchical NPC number in a DS3U range is used, the output will be seven NPCs per line as shown below:

[O.52091]

**M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS1 DS3U NPC [a]aaa-[b]bbb 5 LN MSG:  
rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi  
rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi  
rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi  
rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi EOM**

```

      .
      .
      .

```

**M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS1 {NPC [s]abc-[t]def|\  
ALL[ UNIT [q]q]} COMPL**

If a single 3- or 4-digit nonhierarchical NPC number in an FTU or DS3U is used, the output will be one line as shown below:

[O.52091]

**M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS1 {FTU|DS3U} NPC [s]abc rr[u]ghi COMPL**

## **Hierarchical**

The output message in hierarchical PDS form will span two output segments per FTM for FTU NPC ranges, one output segment per DS3 for DS3U NPC ranges, and one line for a single FTU or DS3U NPC.

If the hierarchical NPC number in an FTU range is used, each output segment will display five NPCs per line as shown below:

[O.52091]

M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS1 FTU NPC bcdef-edhfg 5 LN MSG:  
rrghikl rrghikl rrghikl rrghikl rrghikl  
rrghikl rrghikl rrghikl rrghikl rrghikl  
rrghikl rrghikl rrghikl rrghikl rrghikl  
rrghikl rrghikl rrghikl rrghikl rrghikl EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS1 FTU NPC fhjrk-stxyz 5 LN MSG:  
rrghikl rrghikl rrghikl rrghikl rrghikl  
rrghikl rrghikl rrghikl rrghikl rrghikl  
rrghikl rrghikl rrghikl rrghikl rrghikl  
rrghikl rrghikl rrghikl rrghikl rrghikl EOM

. . .  
. . .  
. . .

M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS1 {NPC uvmnp-wxkqr|\  
ALL[ UNIT [q]q]} COMPL

If the hierarchical NPC number in a DS3U range is used, the output segment will display seven NPCs per line as shown below:

[O.52091]

M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS1 DS3U NPC bcdef-stxyz 5 LN MSG:  
rrghikl rrghikl rrghikl rrghikl rrghikl rrghikl rrghikl  
rrghikl rrghikl rrghikl rrghikl rrghikl rrghikl rrghikl  
rrghikl rrghikl rrghikl rrghikl rrghikl rrghikl rrghikl  
rrghikl rrghikl rrghikl rrghikl rrghikl rrghikl rrghikl EOM

. . .  
. . .  
. . .

M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS1 {NPC uvmnp-wxkqr|\  
ALL[ UNIT [q]q]} COMPL

If a single 3- or 4-digit hierarchical NPC number in an FTU or DS3U is used, the output will be one line as shown below:

[O.52091]

M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS1 {FTU|DS3U} NPC uvmnp rrghikl COMPL

### **Denial Message**

---

Not applicable.

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**[s]abc** - 3- or 4-digit nonhierarchical NPC number, the first number of a range or a single NPC number.

**[t]def** - 3- or 4-digit nonhierarchical NPC number, the last number of a range.

**ALL** - All  
Keyword indicating that all NPCs in the frame are being queried for Roll status.

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)  
Keyword used to limit query to all NPCs in a Unit.

**[q]q** - The 1- or 2-digit Unit number

**[a]aaa** - 3- or 4-digit nonhierarchical NPC number, the first NPC number of an FTM or DS3.

**[b]bbb** - 3- or 4-digit nonhierarchical NPC number, the last NPC number of an FTM or DS3.

**[u]ghi** - The 3- or 4-digit nonhierarchical NPC number of the Service or Bridged facility associated with the queried NPC.

**ghikl** - Hierarchical NPC number of the Service or Bridged facility associated with the queried NPC.

**rr** - NPC Roll status interpreted as follows:

*rr*      *Type of Facility*

- OS      Indicates that NPC [u]ghi or ghikl is the Original Service facility and the corresponding NPC is the Original Bridged facility.
- NS      Indicates that NPC [u]ghi or ghikl is the New Service facility and the corresponding NPC is the New Bridged facility.
- OB      Indicates that NPC [u]ghi or ghikl is the Original Bridged facility and the corresponding NPC is the Original Service facility.
- NB      Indicates that NPC [u]ghi or ghikl is the New Bridged facility and the corresponding NPC is the New Service facility.
- Indicates that the NPC is not a Service or Bridged facility.

**bcdef** - Hierarchical NPC number, the first NPC number of an FTM or DS3.

**edhfg** - Hierarchical NPC number, the last NPC number of an FTM output segment.

**fhjrk** - Hierarchical NPC number, the first NPC number of an FTM output segment.

**stxyz** - Hierarchical NPC number, the last NPC number of an FTM or DS3.

**uvmnp** - Hierarchical NPC number, the first NPC number of a range or a single NPC number.

**wxkqr** - Hierarchical NPC number, the last NPC number of a range.

**uv, wx, bc, st, fh, ed**

- Unit number

**m, k, d, x, j, h**

- Module number

**np, qr, ef, yz, rk, fg**

- NPC number within the module

**Note:** Valid NPC types for DS1 Roll are DExyz, DAxyz, TExyz and TAxzy.

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

If NPC numbers are expressed in hierarchical form, the valid values are:

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |



## **UTL,QRY,RTMAP,DLMAP**

### **UTILITY QUERY, RTMAP, DLMAP**

#### **Explanation Of Command**

This message shows all connections on a specific remote terminal (RT) or data link (DL) for a digital carrier line unit or shows all cross-connections for all of the RTs or DLs terminated on the frame provided the bank identification option is not present on the input.

On output, the SWMR or SWAR network processing circuit shows only the digroup which is switch protected. Bank identification numbers are listed in ascending order.

#### **Command**

[I.52311]

**UTL:FRM xy,SEQ ww:QRY,{RTMAP|DLMAP}[ ffff]!**

## Completion Message

### Nonhierarchical

[O.52311]

If the 3-digit nonhierarchical NPC numbering scheme is used by the link/user  
The following output will be generated:

```
M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} ffff MD g[g] 5 LN MSG:
DGA aaa[ {SWMR|SWAR} DGP ppp] DSxyz ccc-ddd[ {sss|NDL|RTF}]
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr EOM
```

.  
.  
.

```
M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} ffff MD g[g] 5 LN MSG:
DGx bbb[ {SWMR|SWAR} DGP ppp] DSxyz ccc-ddd[ {sss|NDL|RTF}]
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} ffff COMPL
```

If the 4-digit nonhierarchical NPC numbering scheme is used by the link/user  
The following output will be generated:

```
M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} ffff MD g[g] 6 LN MSG:
DGA aaaa[ {SWMR|SWAR} DGP pppp] DSxyz ccc-ddd[ {sss|NDL|RTF}]
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr EOM
```

.  
.  
.

```
M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} ffff MD g[g] 6 LN MSG:
DGx bbbb[ {SWMR|SWAR} DGP pppp] DSxyz ccc-ddd[ {sss|NDL|RTF}]
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} ffff COMPL
```

For each RTMAP/DLMAP, if the 3-digit nonhierarchical NPC number is used by the link/user, the following output will be generated:

[O.52312]

M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} kkk {EOM|COMPL}

M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} ffff MD g[g] 5 LN MSG:  
DGA aaa[ {SWMR|SWAR} DGP ppp] DSxyz ccc-ddd[ {sss|NDL|RTF}]  
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr  
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr  
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} ffff MD g[g] 5 LN MSG:  
DGx bbb[ {SWMR|SWAR} DGP ppp] DSxyz ccc-ddd[ {sss|NDL|RTF}]  
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr  
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr  
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr EOM

.  
.  
.

M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} hhhh MD g[g] 5 LN MSG:  
DGA aaa[ {SWMR|SWAR} DGP ppp] DSxyz ccc-ddd[ {sss|NDL|RTF}]  
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr  
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr  
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} hhhh MD g[g] 5 LN MSG:  
DGx bbb[ {SWMR|SWAR} DGP ppp] DSxyz ccc-ddd[ {sss|NDL|RTF}]  
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr  
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr  
tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr tghijjrr EOM

.  
.  
.

M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} COMPL

For each RTMAP/DLMAP, if the 4-digit nonhierarchical NPC number is used by the link/user, the following output will be generated:

[O.52312]

M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} kkk {EOM|COMPL}

M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} ffff MD g[g] 6 LN MSG:  
DGA aaaa[ {SWMR|SWAR} DGP pppp] DSxyz ccc-ddd[ {sss|NDL|RTF}]  
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr  
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr  
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr  
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} ffff MD g[g] 6 LN MSG:  
DGx bbbb[ {SWMR|SWAR} DGP pppp] DSxyz ccc-ddd[ {sss|NDL|RTF}]  
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr  
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr  
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr  
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr EOM

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M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} hhhh MD g[g] 6 LN MSG:  
DGA aaaa[ {SWMR|SWAR} DGP pppp] DSxyz ccc-ddd[ {sss|NDL|RTF}]  
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr  
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr  
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr  
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} hhhh MD g[g] 6 LN MSG:  
DGx bbbb[ {SWMR|SWAR} DGP pppp] DSxyz ccc-ddd[ {sss|NDL|RTF}]  
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr  
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr  
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr  
tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr tsghijjrr EOM

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M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} COMPL

## Hierarchical

[O.52311]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} ffff MD g[g] 6 LN MSG:
DGA uvjaa[ {SWMR|SWAR} DGP uvjpp] DSxyz ccc-ddd[ {sss|NDL|RTF}]
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr EOM
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```
M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} ffff MD g[g] 6 LN MSG:
DGx uvkbb[ {SWMR|SWAR} DGP uvjpp] DSxyz ccc-ddd[ {sss|NDL|RTF}]
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr EOM
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```
M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} ffff COMPL
```

[O.52312]

M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} kkk {EOM|COMPL}

M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} ffff MD g[g] 6 LN MSG:  
DGA uvjaa[ {SWMR|SWAR} DGP uvjpp] DSxyz ccc-ddd[ {sss|NDL|RTF}]  
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr  
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr  
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr  
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} ffff MD g[g] 6 LN MSG:  
DGx uvkbb[ {SWMR|SWAR} DGP uvjpp] DSxyz ccc-ddd[ {sss|NDL|RTF}]  
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr  
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr  
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr  
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr EOM

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M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} hhhh MD g[g] 6 LN MSG:  
DGA wxlaa[ {SWMR|SWAR} DGP wxlpp] DSxyz ccc-ddd[ {sss|NDL|RTF}]  
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr  
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr  
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr  
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} hhhh MD g[g] 6 LN MSG:  
DGx wxmbb[ {SWMR|SWAR} DGP wxlpp] DSxyz ccc-ddd[ {sss|NDL|RTF}]  
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr  
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr  
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr  
tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr tuvmnpjjjr EOM

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M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} COMPL

[O.52313]

M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP}[ ffff] COMPL

## Denial Message

[O.52311.01]

M hh:mm:ss xy,ww n[vv] UTL QRY {RTMAP|DLMAP} ffff COND cc DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**RTMAP** - Remote terminal (RT) channel map (SLC® carrier)

**DLMAP** - Digital carrier line unit (DCLU) channel map

**ffff** - Bank identification number (0000 through 9999)

**hhhh** - Bank identification number ( $ffff \leq hhhh$ )

**MD** - Mode

**g[g]** - Mode of operation

| <i>g[g]</i> | <i>Explanation</i>       |
|-------------|--------------------------|
| 1           | SLC 96 Carrier Mode I    |
| 3           | SLC 96 Carrier Mode III  |
| C           | SLC Series 5 Carrier FPC |

**DGA** - Digroup A of a SLC carrier bank

**DGx** - Digroup x (x = B, C, or D) of a SLC carrier bank

**DGP** - Digroup P of a SLC carrier bank

**aaa** - 3-digit nonhierarchical DGA NPC number

**bbb** - 3-digit nonhierarchical DGB, DGC, or DGD NPC number

**ppp** - 3-digit nonhierarchical DGP NPC number

**aaaa** - 4-digit nonhierarchical DGA NPC number

**bbbb** - 4-digit nonhierarchical DGB, DGC, or DGD NPC number

**pppp** - 4-digit nonhierarchical DGP NPC number

If NPC numbers are expressed in three digits, the valid values are:

DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

**DSxyz** - SLC® Carrier Terminating NPC type

DS-type xyz fields

**x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>               |
|------------|----------------------------------|
| <b>0</b>   | Not assigned                     |
| <b>1</b>   | D4                               |
| <b>2</b>   | ESF - Voice                      |
| <b>3</b>   | Not assigned                     |
| <b>4</b>   | Not assigned                     |
| <b>5</b>   | Not assigned                     |
| <b>6</b>   | SLC® 96 carrier Fs               |
| <b>7</b>   | SLC 5 carrier ESF with data link |
| <b>8-9</b> | Not assigned                     |



**y** - Line and signaling format

**y** *Explanation*

- 0** Zero code suppression (ZCS)
- 1** No zero code suppression (NZCS)
- 2** Bipolar with 8 zero substitution (B8ZS)
- 3-9** Not assigned

**z** - Counting sequence format

**z** *Explanation*

- 0** SLC 96 carrier Mode III D4 counting sequence
- 1** SLC 96 carrier Mode III D1D counting sequence
- 2** SLC 96 carrier Mode I D1D counting sequence
- 3** SLC Series 5 carrier D4 counting sequence
- 4-9** Not assigned

**uvjaa** - Hierarchical DGA NPC number

**wxlaa** - Hierarchical DGA NPC number of the last RT or DCLU listed.

**uvkbb** - Hierarchical DGB, DGC, or DGD NPC number

**wxmbb** - Hierarchical DGB, DGC, or DGD NPC number of the last RT or, DCLU listed.

**uvjpp** - Hierarchical DGP NPC number

**wxlpp** - Hierarchical DGP NPC number of the last RT or DCLU listed.

**uv,wx** - Unit number

**j,k,l,m**

- Module number

**aa** - NPC number

**bb** - NPC number

**pp** - NPC number

The valid values are:

DS type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

**SWMR** - Switch manually requested

**SWAR** - Switch automatically requested

Switch refers to a protection switch.

**ccc** - Beginning channel number  
**ddd** - Ending channel number

| <i>ccc-ddd</i>      | <i>Digroup</i> | <i>Mode</i>  |
|---------------------|----------------|--------------|
| 001-024             | DGA            | Mode I and C |
| 001-047(odd # only) | DGA            | Mode III     |
| 025-048             | DGB            | Mode I and C |
| 049-072             | DGC            | Mode I and C |
| 049-095(odd # only) | DGC            | Mode III     |
| 073-096             | DGD            | Mode I and C |

**sss** - SLC 96 carrier remote terminal power or miscellaneous alarm option

| <i>sss</i> | <i>Explanation</i>                           |
|------------|----------------------------------------------|
| PMJ        | Power major alarm from the data link         |
| PMN        | Power minor alarm from the data link         |
| MMJ        | Miscellaneous major alarm from the data link |
| MMN        | Miscellaneous minor alarm from the data link |

**NDL** - No data link

**RTF** - Retrofit (only applicable to SLC Series 5 carrier FPC RT)

**kkk** - Total number of SLC carrier RT or DCLU banks

**tghijjrr**  
- Termination with 3-digit nonhierarchical NPC number

**t[s]ghijjrr**  
- Termination with 4-digit nonhierarchical NPC number.

**tuvmpjjrr**  
- Termination with hierarchical NPC number

| <i>t</i> | <i>Type of Connection</i> |
|----------|---------------------------|
| *        | One-way                   |
| " "      | Two-way (a blank)         |
| B        | Broadcast                 |

**[s]ghijj**

- The mapped 3- or 4-digit nonhierarchical NPC and channel numbers.

|                 |                    |
|-----------------|--------------------|
| <i>[s]ghijj</i> | <i>Explanation</i> |
| [0]000000       | Unmapped           |
| [-]-SECH-       | Subrate channel    |

**[s]ghi**

- The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

|                              |                              |                              |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-002</b> | <b>161-162</b> | <b>321-322</b> | <b>481-482</b> | <b>641-642</b> | <b>801-802</b> |
| <b>021-022</b> | <b>181-182</b> | <b>341-342</b> | <b>501-502</b> | <b>661-662</b> | <b>821-822</b> |
| <b>041-042</b> | <b>201-202</b> | <b>361-362</b> | <b>521-522</b> | <b>681-682</b> | <b>841-842</b> |
| <b>061-062</b> | <b>221-222</b> | <b>381-382</b> | <b>541-542</b> | <b>701-702</b> | <b>861-862</b> |
| <b>081-082</b> | <b>241-242</b> | <b>401-402</b> | <b>561-562</b> | <b>721-722</b> | <b>881-882</b> |
| <b>101-102</b> | <b>261-262</b> | <b>421-422</b> | <b>581-582</b> | <b>741-742</b> | <b>901-902</b> |
| <b>121-122</b> | <b>281-282</b> | <b>441-442</b> | <b>601-602</b> | <b>761-762</b> | <b>921-922</b> |
| <b>141-142</b> | <b>301-302</b> | <b>461-462</b> | <b>621-622</b> | <b>781-782</b> | <b>941-942</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0002</b> | <b>0161-0162</b> | <b>0321-0322</b> | <b>0481-0482</b> |
| <b>0021-0022</b> | <b>0181-0182</b> | <b>0341-0342</b> | <b>0501-0502</b> |
| <b>0041-0042</b> | <b>0201-0202</b> | <b>0361-0362</b> | <b>0521-0522</b> |
| <b>0061-0062</b> | <b>0221-0222</b> | <b>0381-0382</b> | <b>0541-0542</b> |
| <b>0081-0082</b> | <b>0241-0242</b> | <b>0401-0402</b> | <b>0561-0562</b> |
| <b>0101-0102</b> | <b>0261-0262</b> | <b>0421-0422</b> | <b>0581-0582</b> |
| <b>0121-0122</b> | <b>0281-0282</b> | <b>0441-0442</b> | <b>0601-0602</b> |
| <b>0141-0142</b> | <b>0301-0302</b> | <b>0461-0462</b> | <b>0621-0622</b> |

| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0642</b> | <b>0801-0802</b> | <b>0961-0962</b> | <b>1121-1122</b> |
| <b>0661-0662</b> | <b>0821-0822</b> | <b>0981-0982</b> | <b>1141-1142</b> |
| <b>0681-0682</b> | <b>0841-0842</b> | <b>1001-1002</b> | <b>1161-1161</b> |
| <b>0701-0702</b> | <b>0861-0862</b> | <b>1021-1022</b> | <b>1181-1182</b> |
| <b>0721-0722</b> | <b>0881-0882</b> | <b>1041-1042</b> | <b>1201-1202</b> |
| <b>0741-0742</b> | <b>0901-0902</b> | <b>1061-1062</b> | <b>1221-1222</b> |
| <b>0761-0762</b> | <b>0921-0922</b> | <b>1081-1082</b> | <b>1241-1242</b> |
| <b>0781-0782</b> | <b>0941-0942</b> | <b>1101-1102</b> | <b>1261-1262</b> |

| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1282</b> | <b>1441-1442</b> | <b>1601-1602</b> | <b>1761-1762</b> |
| <b>1301-1302</b> | <b>1461-1462</b> | <b>1621-1622</b> | <b>1781-1782</b> |
| <b>1321-1322</b> | <b>1481-1482</b> | <b>1641-1642</b> | <b>1801-1802</b> |
| <b>1341-1342</b> | <b>1501-1502</b> | <b>1661-1662</b> | <b>1821-1822</b> |
| <b>1361-1362</b> | <b>1521-1522</b> | <b>1681-1682</b> | <b>1841-1842</b> |
| <b>1381-1382</b> | <b>1541-1542</b> | <b>1701-1702</b> | <b>1861-1862</b> |
| <b>1401-1402</b> | <b>1561-1562</b> | <b>1721-1722</b> | <b>1881-1882</b> |
| <b>1421-1422</b> | <b>1581-1582</b> | <b>1741-1742</b> | <b>1901-1902</b> |
| <br>Unit<br>13   | <br>Unit<br>14   | <br>Unit<br>15   | <br>Unit<br>16   |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-1922</b> | <b>2081-2082</b> | <b>2241-2242</b> | <b>2401-2402</b> |
| <b>1941-1942</b> | <b>2101-2102</b> | <b>2261-2262</b> | <b>2421-2422</b> |
| <b>1961-1962</b> | <b>2121-2122</b> | <b>2281-2282</b> | <b>2441-2442</b> |
| <b>1981-1982</b> | <b>2141-2142</b> | <b>2301-2302</b> | <b>2461-2462</b> |
| <b>2001-2002</b> | <b>2161-2162</b> | <b>2321-2322</b> | <b>2481-2482</b> |
| <b>2021-2022</b> | <b>2181-2182</b> | <b>2341-2342</b> | <b>2501-2502</b> |
| <b>2041-2042</b> | <b>2201-2202</b> | <b>2361-2362</b> | <b>2521-2522</b> |
| <b>2061-2062</b> | <b>2221-2222</b> | <b>2381-2382</b> | <b>2541-2542</b> |

DACS II Non-CEF frames support two virtual NPCs using the three digit NPC numbering scheme. The valid values for Non-CEF frames are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**961-962**

DACS II CEF frames support six virtual NPCs using either a three digit or four digit NPC numbering scheme. If NPC numbers are expressed in three digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**961-966**

If NPC numbers are expressed in four digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit

-

**NPC**

**9961-9966**

#### **uvmnpjjj**

- Mapped hierarchical NPC and channel numbers.

| <i>uvmnpjjj</i> | <i>Explanation</i> |
|-----------------|--------------------|
| 00000000        | unmapped           |
| --SECH--        | Subrate channel    |

#### **uv-m-npjjj**

- Mapped hierarchical NPC and channel numbers.

| <i>uv-m-npjjj</i> | <i>Explanation</i> |
|-------------------|--------------------|
| 00-0-00000        | unmapped           |
| --SECH--          | Subrate channel    |
| ---SECH---        | Subrate channel    |

**uvmnp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The valid values are:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

MB type NPC numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-8</b> | <b>01-02</b> |

VI NPC numbers listed by unit, module, and NPC Number  
Unit Type VI (Virtual)

| Unit      | Module   | NPC                                   |
|-----------|----------|---------------------------------------|
| <b>99</b> | <b>1</b> | <b>01-02 (DACS II Non-CEF frames)</b> |
| <b>99</b> | <b>1</b> | <b>01-06 (DACS II CEF frames)</b>     |

**jjj** - Channel number

The valid channel numbers for each NPC type are:

Channel numbers  
001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

Conference numbers  
001-500 (Virtual NPC)

001-085 (MB NPC)

**r** - Termination status

*r* Explanation

T Terminated

blank Not Terminated



**cc** - Hexadecimal condition code

**cc** *Explanation*

**7E** Bank id number not found

## **UTL, QRY, SCON, CH, TO**

### **UTILITY QUERY**

#### **Explanation Of Command**

This message requests the far end information for each customer in the connected channel or range of connected channels.

Only one customer will be reported for a DS0A channel. For a DS0B channel, the number of customers reported will be 5, 10, or 20, depending on how the channel was established.

#### **Command**

##### **Nonhierarchical**

[I.52511]

UTL:FRM xy,SEQ ww:QRY,SCON,CH,TO [s]abcddd[-eee]!

##### **Hierarchical**

[I.52511]

UTL:FRM xy,SEQ ww:QRY,SCON,CH,TO uvmnpddd[-eee]!

## **Completion Message**

---

### **Nonhierarchical**

---

For a DS0A channel

[O.52511]

M hh:mm:ss xy,ww n[vv] UTL QRY SCON CH [s]abcddd 2 LN MSG:  
<far-end> {COMPL|EOM}

For a DS0B 5-customer channel

[O.52511]

M hh:mm:ss xy,ww n[vv] UTL QRY SCON CH [s]abcddd 2 LN MSG:  
<far-end> <far-end> <far-end> <far-end> <far-end> {COMPL|EOM}

10-customer channel

[O.52511]

M hh:mm:ss xy,ww n[vv] UTL QRY SCON CH [s]abcddd 3 LN MSG:  
<far-end> <far-end> <far-end> <far-end> <far-end>  
<far-end> <far-end> <far-end> <far-end> <far-end> {COMPL|EOM}

20-customer channel

[O.52511]

M hh:mm:ss xy,ww n[vv] UTL QRY SCON CH [s]abcddd 5 LN MSG:  
<far-end> <far-end> <far-end> <far-end> <far-end>  
<far-end> <far-end> <far-end> <far-end> <far-end>  
<far-end> <far-end> <far-end> <far-end> <far-end>  
<far-end> <far-end> <far-end> <far-end> <far-end> {COMPL|EOM}

### **Hierarchical**

---

For a DS0A channel

[O.52511]

M hh:mm:ss xy,ww n[vv] UTL QRY SCON CH uvmnpddd 2 LN MSG:  
<far-end> {COMPL|EOM}

For a DSOB 5-customer channel

[O.52511]

M hh:mm:ss xy,ww n[vv] UTL QRY SCON CH uvmnpddd 2 LN MSG:  
<far-end> <far-end> <far-end> <far-end> <far-end> {COMPL|EOM}

10-customer channel

[O.52511]

M hh:mm:ss xy,ww n[vv] UTL QRY SCON CH uvmnpddd 3 LN MSG:  
<far-end> <far-end> <far-end> <far-end> <far-end>  
<far-end> <far-end> <far-end> <far-end> <far-end> {COMPL|EOM}

20-customer channel

[O.52511]

M hh:mm:ss xy,ww n[vv] UTL QRY SCON CH uvmnpddd 5 LN MSG:  
<far-end> <far-end> <far-end> <far-end> <far-end>  
<far-end> <far-end> <far-end> <far-end> <far-end>  
<far-end> <far-end> <far-end> <far-end> <far-end>  
<far-end> <far-end> <far-end> <far-end> <far-end> {COMPL|EOM}

## **Denial Message**

---

### **Nonhierarchical**

---

[O.52511.01]

M hh:mm:ss xy,ww n[vv] UTL QRY SCON CH [s]abcddd[-eee] 2 LN MSG:  
<reason> DNY

### **Hierarchical**

---

[O.52511.01]

M hh:mm:ss xy,ww n[vv] UTL QRY SCON CH uvmnpddd[-eee] 2 LN MSG:  
<reason> DNY

## **Autonomous Message**

---

Not applicable.

### Explanation Of Parameters

**CH** - Channel

**TO** - To designation

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The allowable values are presented below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number for NPC specified in input  
**eee** - Channel number for NPC specified in input denoting end of range

The allowable values are presented below:

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**hhh** - Channel number ( ddd through eee )

**far-end**

- Far-end data in the form:

| <b>far-end</b>      | <i>Explanation</i>                                                                         |
|---------------------|--------------------------------------------------------------------------------------------|
| <b>[t]ghijjj/ll</b> | Far-end FROM customer                                                                      |
| <b>ghijkjjj/ll</b>  | Far-end FROM customer                                                                      |
| <b>MPT aa</b>       | Customer is part of a multipoint circuit<br>where aa is either MA (MASTER) or BR (BRANCH). |
| <b>UASGN</b>        | Customer is unassigned                                                                     |
| <b>NOT_EST</b>      | Channel is not established                                                                 |
| <b>PCH ddd</b>      | Parity channel to data channel ddd                                                         |

**reason      - Reason for denial**

**reason**

UNIT qq IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED

INVALID CHANNEL NUMBER FOR CHANNEL [s]abcddd  
NPC abc IS NOT A VALID NPC NUMBER

[s]abcddd-fff IS AN INVALID RANGE OF CHANNELS

NPC [s]abc IS NOT PART OF AN RT



## **UTL, QRY, SCON, TO**

### **QUERY SUBRATE CROSS-CONNECT**

#### **Explanation Of Command**

This Subrate message requests cross-connect circuit information at the customer level.

#### **Command**

##### **Nonhierarchical**

[I.52521]

UTL:FRM xy,SEQ ww:QRY,SCON,TO [s]abcddd[/ff]!

##### **Hierarchical**

[I.52521]

UTL:FRM xy,SEQ ww:QRY,SCON,TO uvmnpddd[/ff]!

#### **Completion Message**

##### **Nonhierarchical**

Usage: For a two-point circuit

[O.52521]

M hh:mm:ss xy,ww n[vv] UTL QRY SCON TO [s]abcddd/ff \  
2 LN MSG:  
FROM [t]ghihhh/ll RATE rr[ TLA t][ UTST] COMPL

Usage: For a multipoint circuit

[O.52522]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SCON TO [s]abcddd/ff \
5 LN MSG:
MPTM [t]defggg/hh RATE rr
MJU 0001 MA[ MJU tttt,u][ TLA t][ UTST]
BR1 <br_data>[ TLA t][ UTST] BR2 <br_data>[ TLA t][ UTST]
BR3 <br_data>[ TLA t][ UTST] BR4 <br_data>[ TLA t][ UTST] \
{EOM|COMPL}
```

.  
.  
.

```
M hh:mm:ss xy,ww n[vv] UTL QRY SCON TO [s]abcddd/ff 4 LN MSG:
MJU ssss MA MJU tttt,u[ TLA t][ UTST]
BR1 <br_data>[ TLA t][ UTST] BR2 <br_data>[ TLA t][ UTST]
BR3 <br_data>[ TLA t][ UTST] BR4 <br_data>[ TLA t][ UTST] \
COMPL
```

## **Hierarchical**

---

Usage: For a two-point circuit

[O.52521]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SCON TO uvmnpddd/ff 2 LN MSG:
FROM edhfghhh/ll RATE rr[ TLA t][ UTST] COMPL
```

Usage: For a multipoint circuit

[O.52522]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SCON TO uvmnpddd/ff 5 LN MSG:
MPTM wxkqrggg/hh RATE rr
MJU 0001 MA[ MJU tttt,u][ TLA t][ UTST]
BR1 <br_data>[ TLA t][ UTST] BR2 <br_data>[ TLA t][ UTST]
BR3 <br_data>[ TLA t][ UTST] BR4 <br_data>[ TLA t][ UTST] \
{EOM|COMPL}
```

.  
.  
.

```
M hh:mm:ss xy,ww n[vv] UTL QRY SCON TO uvmnpddd/ff 4 LN MSG:
MJU ssss MA MJU tttt,u[ TLA t][ UTST]
BR1 <br_data>[ TLA t][ UTST] BR2 <br_data>[ TLA t][ UTST]
BR3 <br_data>[ TLA t][ UTST] BR4 <br_data>[ TLA t][ UTST] \
COMPL
```

### Denial Message

---

### Nonhierarchical

---

[O.52521.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SCON TO [s]abcddd[/ff] \
2 LN MSG:
<reason> DNY
```

### Hierarchical

---

[O.52521.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SCON TO uvmnpddd[/ff] \
2 LN MSG:
<reason> DNY
```

### Autonomous Message

---

Not applicable.

## Explanation Of Parameters

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The allowable values are presented below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number for FROM NPC specified in input  
**hhh** - Channel number for TO NPC specified in input

The allowable values are presented below:

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - Customer number of FROM NPC  
**ll** - Customer number of TO NPC

The allowable values are presented below:

|       |                                     |
|-------|-------------------------------------|
| 01    | (DS0A at 2.4, 4.8, 9.6, or 56 kb/s) |
| 01-20 | (DS0B at 2.4 kb/s)                  |
| 01-10 | (DS0B at 4.8 kb/s)                  |
| 01-05 | (DS0B at 9.6 kb/s)                  |

**[t]ghi** - The 3- or 4-digit nonhierarchical NPC number

**edhfg** - Hierarchical NPC number  
**wxkqr** - Hierarchical NPC number

The above definitions apply to the multipoint circuit master leg or the FROM side of a two-point circuit. See definition of [s]abc

**jjj** - Channel number of multipoint circuit master leg or of FROM side of two-point circuit.

**RATE** - Rate

**rr** - Circuit rate (24, 48, 56, 96)

**MJU** - Multipoint junction unit

**TLA** - Terminate and leave active

**t** - Terminate and leave status of the two-point or MJU connection.

The "TO" direction is defined as facing toward the specified facility termination or alternatively as facing toward what is connected to the specified branch or master.

| <b>t</b> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|   |      |
|---|------|
| F | FROM |
|---|------|

|   |    |
|---|----|
| T | TO |
|---|----|

|   |      |
|---|------|
| B | BOTH |
|---|------|

**UTST** - Under test

For a multipoint circuit, the position of the indicator "UTST" in the output message precisely identifies the point in the circuit to which a test port is connected. When specified, the indicator "UTST" implies that the circuit is under test at some point between the TO and FROM terminations.

**MPTM** - Multipoint mode

**BR1** - Branch 1

**BR2** - Branch 2

**BR3** - Branch 3

**BR4** - Branch 4

**[t]def** - The 3- or 4-digit nonhierarchical NPC number of the external facility termination of the multipoint master

**ggg** - The external facility termination channel of the multipoint master

**hh** - Customer number

**ssss** - MJU number of MJU cascaded from this branch (0002 - 9999)  
**tttt** - MJU number connected to control leg of MJU ssss (0002 - 9999)  
**u** - Branch number of MJU tttt (1 - 4)

**br\_data**

- Branch leg connection data in the form:

| <b>br_data</b>      | <i>Explanation</i>                          |
|---------------------|---------------------------------------------|
| <b>[t]ghijjj/ii</b> | External facility termination number        |
| <b>jklnnhhh/ii</b>  | External facility termination number        |
| <b>MJU ssss</b>     | MJU number of MJU cascaded from this branch |
| <b>UASGN</b>        | Branch is unassigned                        |

The external facility termination number is composed of a hierarchical or nonhierarchical NPC number, channel number, and customer number.

**reason** - Reason for denial

**reason**

UNIT qq IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED

INVALID CHANNEL NUMBER FOR CHANNEL [s]abcddd  
CHANNEL [s]abcddd IS A PARITY CHANNEL  
NPC abc IS NOT A VALID NPC NUMBER  
CUSTOMER NUMBER MUST BE SPECIFIED FOR DS-0B

CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS-0A  
CHANNEL [s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS-0B  
CHANNEL [s]abcddd

CHANNEL [s]abcddd/ff IS UNASSIGNED

NPC [s]abc IS NOT PART OF AN RT  
CHANNEL [s]abcddd IS NOT ESTABLISHED TO SR FEATURE



## **UTL,QRY,SCR,LINK,USER,LINKS,USERS**

### **QUERY USER|LINK SCREENING OPTION**

#### **Explanation Of Command**

This command is used to query the user/administrative link for screening options, command category, and the restricted maintenance privilege. These items are set when the user accesses the link.

The frame administrator may query any one or all users and may query the screening options for any one or all administrative links.

This command can not be used to query users/administrative links provisioned for TABS or Modified Snider protocol since screening options do not apply to them.

The RMON/RMOFF option indicates that the user/administrative link is assigned the privilege or not assigned the privilege of issuing the commands restricted to the frame administrator. Default is RMOFF.

The restricted commands are:

```
I.37301 DLT::FPKG  
I.34001 RST::MC:CLR[,ALL];  
I.34001 RST::MC:TAPE;  
I.34211 RST::DISK[,CLR];  
I.34211 RST::[,CLR]|TAPE;  
I.58001 UTL::BOOT,FRAME[, {TAPE|CLR}];  
I.55701 UTL::BMTR, FROM {RAM|DISK|TAPE}[, {EXCT|INCL}];  
I.51051 UTL::CLR,BMTR;
```

Output from this command is sent only to the link on which the command was input.

## Command

[I.54001]

UTL:FRM xy,SEQ ww:QRY,SCR,{LINK j[mm[-jnn]]|USER <user id>|\  
LINKS|USERS}!

## Completion Message

For a single link or user

[O.54001]

M hh:mm:ss xy,ww n[vv] UTL QRY SCR {LINK j[mm]|\  
USER <user id>} 3 LN MSG:  
LANG {P|M} NPCAD {E|X|H} LEV a b c d e f {RMON|RMOFF}  
SCR n[ GR a b c d e f] {MCON|MCOFF} RLK {A|I} COMPL

For a range of links or all links or users

[O.54001]

M hh:mm:ss xy,ww n[vv] UTL QRY SCR {LINK j[mm]-p[nn]|LINKS|\  
USERS} 5 LN MSG:  
{LINK j[mm]|USER <user id>} LANG {P|M} NPCAD {E|X|H} LEV a b \  
c d e f {RMON|RMOFF}  
SCR n[ GR a b c d e f] {MCON|MCOFF} RLK {A|I}  
{LINK h[ii]|USER <user id>} LANG {P|M} NPCAD {E|X|H} LEV a b \  
c d e f {RMON|RMOFF}  
SCR n[ GR a b c d e f] {MCON|MCOFF} RLK {A|I} {EOM|COMPL}

[M hh:mm:ss xy,ww n[vv] UTL QRY SCR {LINK j[mm]-p[nn]|LINKS|\  
USERS} e LN MSG:  
[{LINK j[kk]|USER <user id>} LANG {P|M} NPCAD {E|X|H} LEV a \  
b c d e f {RMON|RMOFF}  
SCR n[ GR a b c d e f] {MCON|MCOFF} RLK {A|I}[ {EOM|COMPL}]]  
{LINK p[nn]|USER <user id>} LANG {P|M} NPCAD {E|X|H} LEV a \  
b c d e f {RMON|RMOFF}  
SCR n[ GR a b c d e f] {MCON|MCOFF} RLK {A|I} {EOM|COMPL}]

For a range of virtual circuits of an X.25 link

[O.54001]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SCR LINK jmm[-jnn] 5 LN MSG:
LINK jmm LANG {P|M} NPCAD {E|X|H} LEV a b c d e f {RMON|RMOFF}
SCR n[ GR a b c d e f] {MCON|MCOFF} RLK {A|I}
LINK jii LANG {P|M} NPCAD {E|X|H} LEV a b c d e f {RMON|RMOFF}
SCR n[ GR a b c d e f] {MCON|MCOFF} RLK {A|I} {EOM|COMPL}
```

```
[M hh:mm:ss xy,ww n[vv] UTL QRY SCR LINK jmm[-jnn] e LN MSG:
[LINK jkk LANG {P|M} NPCAD {E|X|H} LEV a b c d e f {RMON|RMOFF}
SCR n[ GR a b c d e f] {MCON|MCOFF} RLK {A|I}[ {EOM|COMPL}]]
LINK jnn LANG {P|M} NPCAD {E|X|H} LEV a b c d e f {RMON|RMOFF}
SCR n[ GR a b c d e f] {MCON|MCOFF} RLK {A|I} {EOM|COMPL}]
```

For the single link (X.25 virtual circuit) provisioned as a Facility Data Link

[O.54001]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SCR LINK jmm LANG F NPCAD {E|X|H} COMPL
```

For a range of links or all links/users, if a link (X.25 virtual circuit) is provisioned as a Facility Data Link

```
M hh:mm:ss xy,ww n[vv] UTL QRY SCR {LINK j[mm]-p[nn]|LINKS|\
USERS} e LN MSG:
LINK jmm LANG F NPCAD {E|X|H}[ {EOM|COMPL}]
```

### **Denial Message**

---

[O.54001.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SCR {LINK j[mm][-jnn]| \
USER <user id>|LINKS|USERS} COND cc DNY
```

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**SCR** - Screening

**n** - Screening option number (1 - 5)

| <i>n</i> | <i>Explanation</i>                                                                                                  |
|----------|---------------------------------------------------------------------------------------------------------------------|
| 1        | Responses to input at the same link.                                                                                |
| 2        | Responses to input at the same link and autonomous messages.                                                        |
| 3        | Responses to messages input at the same link and some specified sets of action verbs.                               |
| 4        | Responses to messages input at the same link and some specified sets of action verbs including autonomous messages. |
| 5        | Responses to input messages on all links and autonomous messages                                                    |

**LINK** - Link

**j [mm]** - Administrative link number

**j** - Physical link number (1 through 6)

**mm** - Virtual circuit number (01 through 16) for j = 5 or 6

Variable j[mm] when used in combination with p[nn] denotes a range of administrative link numbers beginning with j[mm] and ending with p[nn]. In the general case j is the same value as p; that is, there is no link range. A range of links may only be specified by the Frame Administrator and may only be used for synchronous links, not the asynchronous links 1 through 4.

**o[uu]** - Next administrative link number in command range

**g[vv]** - Next administrative link number in command range

**h[ii]** - Next administrative link number in command range

**j[kk]** - Next administrative link number in command range

**r[tt]** - Next administrative link number in command range

**s[yy]** - Next administrative link number in command range

**p[nn]** - Administrative link number at end of command range

|                      |                                         |
|----------------------|-----------------------------------------|
| o,g,h,j,r,s,p        | Physical link numbers (1 through 6)     |
| uu,vv,ii,kk,tt,yy,nn | Virtual circuit numbers (01 through 16) |
|                      | for o, g, h, j, r, s, or p = 5 or 6     |

**USER** - User

**user id**

- User identifier

The user's login identifier (two to eight alphabetic characters). The frame administrator may use specify any user\_id but an individual user is restricted to their own user\_id.

**LINKS** - Links

All administrative links (frame administrator only)

**USERS** - Users

All users (frame administrator only)

**LANG** - Language

**P** - Program Documentation Standards (PDS)

**M** - Man-Machine Language (MML)

**F** - Facility Data Link (FDL)

This language may only be provisioned for a single virtual circuit on an X.25 link. A virtual circuit provisioned with this language provides a communication path between an Operations Support System and the ESF data link of a DA or TA type (ANSI) Network Processing Circuit. Such a virtual circuit is completely dedicated to this function and does not interact with other DACS II input/output (I/O) messages. Once the X.25 link is set up, provisioning this function only requires the user to specify the language "F" for the virtual circuit; no other I/O parameters apply, except for the NPC addressing (NPCAD) option.

**NPCAD** - NPC Addressing scheme

**E** - Extended 3-digit nonhierarchical NPC addressing

**X** - Extended 4-digit nonhierarchical NPC addressing

**H** - Hierarchical NPC addressing

**LEV** - Level

- a** - Execution priority level for circuit provisioning commands
- b** - Execution priority level for equipment provisioning commands
- c** - Execution priority level for maintenance commands
- d** - Execution priority level for test access commands
- e** - Execution priority level for monitoring commands
- f** - Execution priority level for common commands

A table giving the command verbs associated with each of the above command sets is given below.

LEV is used in combination with the command set identifiers a through f to set the execution priority level for each command set. A priority level applies to a user or link as appropriate. Priority levels range from 0 through 3. A list of these levels and their meaning is given below for a. The list for b through f is similar to the a list.

| <i>a</i> | <i>Explanation</i>                                                                                                                                                                                                        |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0        | Commands in the command set assigned this execution priority level cannot be executed.                                                                                                                                    |
| 1        | Highest execution priority level. Commands in the command set assigned this execution priority level will be executed before commands with priority level 2 or 3.                                                         |
| 2        | Middle execution priority level. Commands in the command set assigned this execution priority level will be executed before commands with priority level 3                                                                |
| 3        | Lowest execution priority level. Commands in the command set assigned this execution priority level will be executed after all priority level 1 and 2 commands have been executed. Level 3 is the default priority level. |
| -        | The execution priority level of the command set assigned this execution priority level is not to be changed.                                                                                                              |

**Note:** The commands used to login, logoff, cross-connect, stop, and abort always have the highest priority.

A single queue is used for DACS II commands. When multiple commands arrive at the same time, they will be queued for execution according to the priority assigned to their command set. Commands with the same priority will be executed in the order of arrival, that is, first come first served. A timeout feature insures that no command will wait in the queue forever. When the timeout period has expired for a given command that command will be executed regardless of its priority level.

| a<br>Circuit<br>Prov. | b<br>Equipment<br>Prov. | c<br>Maint. | d<br>Test<br>Access | e<br>Monitoring | f<br>Common |
|-----------------------|-------------------------|-------------|---------------------|-----------------|-------------|
| ACON                  | COPY                    | CFR         | CTST                | AUD             | ACT         |
| ALWSW                 | DGRTH                   | DGN         | STST                | UTL             | ADD         |
| BCON                  | DLT                     | RMV         | TTST                |                 | ALW         |
| BDIS                  | GRTH                    | RST         |                     |                 | CHG         |
| CONF                  |                         |             |                     |                 | ED          |
| INH SW                |                         |             |                     |                 | EXC         |
| OCNT                  |                         |             |                     |                 | INH         |
| OCON                  |                         |             |                     |                 |             |
| ODIS                  |                         |             |                     |                 |             |
| OPR                   |                         |             |                     |                 |             |
| RLS                   |                         |             |                     |                 |             |
| SCNT                  |                         |             |                     |                 |             |
| SCON                  |                         |             |                     |                 |             |
| SDCH                  |                         |             |                     |                 |             |
| SDIS                  |                         |             |                     |                 |             |
| SECH                  |                         |             |                     |                 |             |
| SW                    |                         |             |                     |                 |             |
| TCNT                  |                         |             |                     |                 |             |
| TCON                  |                         |             |                     |                 |             |
| TDIS                  |                         |             |                     |                 |             |
| X                     |                         |             |                     |                 |             |

**RMON** - Restricted maintenance privilege on

**RMOFF** - Restricted maintenance privilege off (default)

- GR** - Group
- a** - Screening level for circuit provisioning commands
  - b** - Screening level for equipment provisioning commands
  - c** - Screening level for maintenance commands
  - d** - Screening level for test access commands
  - e** - Screening level for monitoring commands
  - f** - Screening level for common commands

A table giving the command verbs associated with each of the above command sets is given in the Explanation of Message section.

The command set identifiers a through f are used to set the group screening level for each command set. Screening levels range from 0 through 1. A list of these levels and their meaning is given below for a. The list for b through f is similar to the a list.

| a | Explanation                                                                                                                                             |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Output messages from other links are allowed,                                                                                                           |
| 0 | Output messages from other links are not allowed (the screening option for commands LOGIN, LOGOFF, STOP and ABT is not changeable, and it is set to 1). |

Note: Group information applies only to screening options 3 or 4; it does not appear for options 1, 2, and 5.

- MCON** - Macro component completion messages screening on  
**MCOFF** - Macro component completion messages screening off

**RLK** - Remove link

**A** - Allowed

**I** - Inhibited

A and I are used to assign to a user or link the privilege of removing a link. There is a relationship between the link privilege and the execution priority level. If c (see previous Command Sets table) in the LEV field is set to zero then the command to remove a link cannot be executed hence the remove link privilege is inhibited even if the RLK option is set to A or I.



**cc** - Hexadecimal condition code

**cc** *Explanation*

- D0** Command is Frame administrator (DAX) only.
- D3** User does not exist
- D7** Cannot execute privileged command
- DF** Command and protocol are inconsistent
- E1** Virtual circuit is not specified for X.25 link
- E2** Invalid link number specified

## **UTL, QRY, SECH, TO**

---

### **UTILITY QUERY**

#### **Explanation Of Command**

---

This message requests data or information on an established channel or range of channels.

Data is printed out for the following types of channels.

- An unestablished channel.
- A DS0B channel capable of multiplexing 5, 10, or 20 Subrate customers.
- A DS0A channel (at any rate) without error correction.
- A Subrate DS0A channel with Subrate dataport error correction.
- A 56 kb/s channel with parity channel error correction.
- A DS0B channel capable of multiplexing 5, 10, or 20 Subrate customers and parity channel error correction.
- A parity channel.

#### **Command**

---

#### **Nonhierarchical**

---

[I.52501]

**UTL:FRM xy,SEQ ww:QRY,SECH,TO [s]abcddd[-eee]!**

## Hierarchical

[I.52501]

UTL:FRM xy,SEQ ww:QRY,SECH,TO uvmnpddd[-eee]!

## Completion Message

### Nonhierarchical

For a single channel request

[O.52501]

M hh:mm:ss xy,ww n[vv] UTL QRY SECH [s]abcddd 3 LN MSG:  
CHAN SECH TYPE ERR CORR  
ddd <es\_type> <err\_cor> COMPL

For a range of channels

[O.52501]

M hh:mm:ss xy,ww n[vv] UTL QRY SECH [s]abcddd-eee e LN MSG:  
CHAN SECH TYPE ERR CORR  
ddd <es\_type> <err\_cor>  
hhh <es\_type> <err\_cor>  
hhh <es\_type> <err\_cor> EOM

.  
.  
.

M hh:mm:ss xy,ww n[vv] UTL QRY SECH [s]abcddd-eee e LN MSG:  
hhh <es\_type> <err\_cor>  
.  
.  
.  
eee <es\_type> <err\_cor> COMPL

## Hierarchical

For a single channel request

[O.52501]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SECH uvmnpddd 3 LN MSG:
CHAN SECH TYPE ERR CORR
ddd <es_type> <err_cor> COMPL
```

For a range of channels

[O.52501]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SECH uvmnpddd-eee e LN MSG:
CHAN SECH TYPE ERR CORR
ddd <es_type> <err_cor>
hhh <es_type> <err_cor>
hhh <es_type> <err_cor> EOM
```

.  
.  
.

```
M hh:mm:ss xy,ww n[vv] UTL QRY SECH uvmnpddd-eee e LN MSG:
hhh <es_type> <err_cor>
.
.
.
eee <es_type> <err_cor> COMPL
```

## Denial Message

### Nonhierarchical

[O.52501.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SECH [s]abcddd[-eee] 2 LN MSG:
<reason> DNY
```

## Hierarchical

[O.52501.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SECH uvmnpddd[-eee] 2 LN MSG:
<reason> DNY
```

### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number  
The allowable values are presented below:

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The allowable values are presented below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number  
**eee** - Channel number denoting end of range specification

The allowable values are presented below:

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**hhh** - Channel number (ddd through eee)

### es\_type

- Establish type

| <i>es_type</i> | <i>Explanation</i>                                                       |
|----------------|--------------------------------------------------------------------------|
| NOT_EST        | Channel is not established                                               |
| DS0A rr        | DS0A channel established at rate rr (24, 48, 96, 56)                     |
| DS0B nn        | DS0B channel established with subrate multiplexer type<br>nn (5, 10, 20) |
| PCH            | Parity channel                                                           |

### err\_cor

- Error correction

| <i>err_cor</i> | <i>Explanation</i>                                      |
|----------------|---------------------------------------------------------|
| SEC            | Subrate error correction                                |
| PCH ppp        | Parity channel error correction with parity channel ppp |
| DCH ggg        | Data channel ggg                                        |
| ---            | No error correction                                     |

### reason

- Reason for denial

*reason*

UNIT qq NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED

INVALID CHANNEL NUMBER FOR CHANNEL [s]abcddd  
NPC [s]abc IS NOT A VALID NPC NUMBER

NPC [s]abc IS NOT PART OF AN RT

[s]abcddd-fff IS AN INVALID RANGE OF CHANNELS



## **UTL,QRY,SIGST**

---

### **QUERY TRUNK SIGNALING CONVERSION STATE**

#### **Explanation Of Command**

---

This command is used to query the signaling state of a trunk which is using the E1/T1 signaling conversion feature. This feature is implemented on the Digital Signal Processing Platform (DSPP) circuit pack.

The signaling state on any given trunk will change rapidly with respect to time. This command will only take a snapshot of the state of the specified trunk. This snapshot will only be useful if the circuit is stuck in one given state. Thus it will give field personnel a way of tracking down the real problem.

#### **Command**

---

##### **Nonhierarchical**

---

[1.52601]

**UTL:[FRM xy,SEQ ww]:QRY,SIGST abcd**

##### **Hierarchical**

---

[1.52601]

**UTL:[FRM xy,SEQ ww]:QRY,SIGST uvmpddd**

## **Completion Message**

---

### **Nonhierarchical**

---

[O.52601]

M hh:mm:ss xy,ww n[vv] UTL QRY SIGST abcd dd TYPE mnxyz 4 LN MSG:  
TRUNK E1-TRN E1-RCV T1-TRN T1-RCV SIG  
DIR AB AB A A STATE  
tdir ab cd e g <sigst> COMPL

### **Hierarchical**

---

[O.52601]

M hh:mm:ss xy,ww n[vv] UTL QRY SIGST uv mnpddd TYPE mnxyz 4 LN MSG:  
TRUNK E1-TRN E1-RCV T1-TRN T1-RCV SIG  
DIR AB AB A A STATE  
tdir ab cd e g <sigst> COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.52601.01]

M hh:mm:ss xy,ww n[vv] QRY SIGST abcd dd COND cc DNY

### **Hierarchical**

---

[O.52601.01]

M hh:mm:ss xy,ww n[vv] QRY SIGST uv mnpddd COND cc DNY

## **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**SIGST** - Signaling state

**abcd** - E1/T1 trunk termination

**abc** - NPC number

**ddd** - Channel number

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

# **uvmnpddd**

- E1/T1 trunk termination

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module  
**ddd** - Channel number

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

Valid values are listed below:

|                |                      |
|----------------|----------------------|
| <b>ddd</b>     | <i>Explanation</i>   |
| <b>001-024</b> | T1 NPC channel range |
| <b>001-030</b> | E1 NPC channel range |

**TYPE** - Type

**mnxyz** - NPC Type and provisioning options

**tdir** - Trunk direction

The direction of the trunk as viewed from this channel. A trunk will have a direction specified in the circuit provisioning command which established the cross-connection. That direction will be either "from T1 to E1" or "from E1 to T1". This represents the direction in which a call is being established on the trunk between two switches. Valid values are listed below:

|             |                                                                |
|-------------|----------------------------------------------------------------|
| <b>tdir</b> | <i>Explanation</i>                                             |
| <b>T1IC</b> | T1 Incoming, Channel belongs to a T1 NPC receiving the call    |
| <b>T1OG</b> | T1 Outgoing, Channel belongs to a T1 NPC originating the call  |
| <b>E1IC</b> | E1 Incoming, Channel belongs to an E1 NPC receiving the call   |
| <b>E1OG</b> | E1 Outgoing, Channel belongs to an E1 NPC originating the call |

**ab** - E1 Transmitting AB signaling bits associated with this channel

**cd** - E1 Receiving AB signaling bits associated with this channel

**e** - T1 Transmitting A signaling bit associated with this channel

**g** - T1 Receiving A signaling bit associated with this channel

Valid values for each bit are zero or one.

**sigst** - Signaling state value

| <b>sigst</b> | <i>Explanation</i>    |
|--------------|-----------------------|
| <b>ANS</b>   | Answer                |
| <b>BLK</b>   | Blocking              |
| <b>CLB</b>   | Clear Backward        |
| <b>CLF1</b>  | Clear Forward 1       |
| <b>CLF2</b>  | Clear Forward 2       |
| <b>DIL0</b>  | Dial 0                |
| <b>DIL1</b>  | Dial 1                |
| <b>IDL</b>   | Idle                  |
| <b>SEI</b>   | Seizure               |
| <b>SEA</b>   | Seize Acknowledgement |

**Note:** An asterisk (\*) may be appended to any of the above states. This means that the current received signaling bit value(s) do not correspond to the current signaling state.

**COND** - Condition

**cc** - Hexadecimal condition code

| <b>cc</b> | <i>Explanation</i>                                    |
|-----------|-------------------------------------------------------|
| <b>04</b> | Subject entity is out of service                      |
| <b>11</b> | UC is out of service                                  |
| <b>12</b> | UC is in service but failed                           |
| <b>14</b> | FTMI is out of service                                |
| <b>15</b> | NPC is unequipped                                     |
| <b>1F</b> | FTMI is in service but failed                         |
| <b>26</b> | NPC type error                                        |
| <b>0B</b> | Invalid CEPT NPC                                      |
| <b>39</b> | Signaling state of the trunk failed for the channel   |
| <b>40</b> | Signaling processing is not activated for the channel |
| <b>AA</b> | DSPP pack UC Failed or Out of Service                 |
| <b>AB</b> | DSPP pack FTMI Failed or Out of Service               |
| <b>AC</b> | DSPP pack NPC Failed or Out of Service                |

## **UTL, QRY, SQN**

---

### **UTILITY QUERY SEQUENCE**

#### **Explanation Of Command**

---

This command is used to retrieve the sequence number of the last autonomous message issued by DACS II.

#### **Command**

---

[I.51131]

UTL:FRM xy,SEQ ww:QRY,SQN!

#### **Completion Message**

---

[O.51131]

M hh:mm:ss xy,ww n[vv] UTL QRY SQN nn COMPL

#### **Denial Message**

---

Not applicable.

#### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**SQL** - Sequence Number

**nn** - two digit sequence number of the last autonomous message

## **UTL,QRY,SRHDW,TO**

### **UTILITY QUERY**

#### **Explanation Of Command**

This Subrate message requests a circuit/hardware trace for the customer's channel.

#### **Command**

##### **Nonhierarchical**

[|.52531]

UTL:FRM xy,SEQ ww:QRY,SRHDW,TO [s]abcddd[/ff]!

##### **Hierarchical**

[|.52531]

UTL:FRM xy,SEQ ww:QRY,SRHDW,TO uvmnpddd[/ff]!



---

## Completion Message

---

---

### Nonhierarchical

---

Usage: For a two-point circuit

[O.52531]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SRHDW [s]abcddd/ff 4 LN MSG:
TO [t]ghihhh/ll FROM <from>
TO: <ec> <mux>
FROM: <ec> <mux> COMPL
```

For a multipoint circuit

[O.52532]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SRHDW [s]abcddd/ff 5 LN MSG:
MPTM [t]ghihhh/ll <ec> <mux>
MJU 0001 MA NPC [u]aaa
BR1 <mju_br_data> BR2 <mju_br_data>
BR3 <mju_br_data> BR4 <mju_br_data> {EOM|COMPL}
```

.  
.  
.

```
M hh:mm:ss xy,ww n[vv] UTL QRY SRHDW [s]abcddd/ff 4 LN MSG:
MJU ssss MA MJU tttt, BRi NPC [u]aaa
BR1 <mju_br_data> BR2 <mju_br_data>
BR3 <mju_br_data> BR4 <mju_br_data> COMPL
```

---

### Hierarchical

---

Usage: For a two-point circuit

[O.52531]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SRHDW uvmnpddd/ff 4 LN MSG:
TO edfhghhh/ll FROM <from>
TO: <ec> <mux>
FROM: <ec> <mux> COMPL
```

For a multipoint circuit

[O.52532]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SRHDW uvmnpddd/ff  5 LN MSG:
MPTM edfhghhh/ll <ec>  <mux>
MJU 0001 MA NPC wxkqr
BR1 <mju_br_data>  BR2 <mju_br_data>
BR3 <mju_br_data>  BR4 <mju_br_data>  {EOM|COMPL}
```

.  
.  
.

```
M hh:mm:ss xy,ww n[vv] UTL QRY SRHDW uvmnpddd/ff  4 LN MSG:
MJU ssss MA MJU tttt, BRi NPC wxkqr
BR1 <mju_br_data>  BR2 <mju_br_data>
BR3 <mju_br_data>  BR4 <mju_br_data>  COMPL
```

## Denial Message

---

## Nonhierarchical

---

[O.52531.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SRHDW [s]abcddd[/ff]  2 LN MSG:
<reason>      DNY
```

## Hierarchical

---

[O.52531.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SRHDW uvmnpddd[/ff]  2 LN MSG:
<reason>      DNY
```

## Autonomous Message

---

Not applicable.

## Explanation Of Parameters

**SRHDW** - Substrate hardware

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The allowable values are presented below:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel for NPC specified in input

The allowable values are presented below:

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

**ff** - Customer number

The allowable values are presented below:

|       |                                     |
|-------|-------------------------------------|
| 01    | (DS0A at 2.4, 4.8, 9.6, or 56 kb/s) |
| 01-20 | (DS0B at 2.4 kb/s)                  |
| 01-10 | (DS0B at 4.8 kb/s)                  |
| 01-05 | (DS0B at 9.6 kb/s)                  |

**[t]ghi** - Nonhierarchical NPC number of multipoint circuit master leg or of  
FROM side of two-point circuit

**edfhg** - Hierarchical NPC number of multipoint circuit master leg or of FROM side of two-point circuit

**hhh** - Channel number of multipoint circuit master leg or of FROM side of two-point circuit

**ll** - Customer number of multipoint circuit master leg or of FROM side of two-point circuit

**from** - Far-end connection in the form:

| <b>from</b>  | <i>Explanation</i>               |
|--------------|----------------------------------|
| [v]defjjj/ii | Far-end customer                 |
| wxkqrjjj/ii  | Far-end customer                 |
| UASGN        | Far-end customer is not assigned |

**ec** - Error corrector NPC number in the form:

| <b>ec</b>  | <i>Explanation</i>                                             |
|------------|----------------------------------------------------------------|
| SEC [w]eee | Subrate error corrector on NPC [w]eee (nonhierarchical)        |
| PEC [w]ppp | Parity channel error corrector on NPC [w]ppp (nonhierarchical) |
| SEC wxkee  | Subrate error corrector on NPC wx-k-ee                         |
| PEC uvlpp  | Parity channel error corrector on NPC uv-l-pp                  |
| ---        | No error corrector applicable                                  |

**mux** - Subrate multiplexer NPC information in the form:

| <b>mux</b> | <i>Explanation</i>                                  |
|------------|-----------------------------------------------------|
| MUX [w]mmm | Subrate multiplexer on NPC [w]mmm (nonhierarchical) |
| MUX edjmm  | Subrate multiplexer on NPC edjmm                    |
| ---        | No subrate multiplexer applicable                   |

**[s]abcdddff**  
- Customer for which trace was requested

**[t]ghijjjll**  
- External facility termination of multipoint master

**MJU** - Multipoint junction unit

**ssss** - MJU number (0002 - 9999)

**tttt** - MJU number providing input to MJU ssss

**BR** - Branch

**i** - Branch number of MJU tttt providing signal to MJU ssss

**[u]aaa** - Nonhierarchical Subrate NPC number

If NPC numbers are expressed in three digits, the valid values are:

SR and MJ type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1  | Unit<br>2  | Unit<br>3  | Unit<br>4  | Unit<br>5  | Unit<br>6  |
|------------|------------|------------|------------|------------|------------|
| <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> | <b>NPC</b> |
| <b>001</b> | <b>161</b> | <b>321</b> | <b>481</b> | <b>641</b> | <b>801</b> |
| <b>021</b> | <b>181</b> | <b>341</b> | <b>501</b> | <b>661</b> | <b>821</b> |
| <b>041</b> | <b>201</b> | <b>361</b> | <b>521</b> | <b>681</b> | <b>841</b> |
| <b>061</b> | <b>221</b> | <b>381</b> | <b>541</b> | <b>701</b> | <b>861</b> |
| <b>081</b> | <b>241</b> | <b>401</b> | <b>561</b> | <b>721</b> | <b>881</b> |
| <b>101</b> | <b>261</b> | <b>421</b> | <b>581</b> | <b>741</b> | <b>901</b> |
| <b>121</b> | <b>281</b> | <b>441</b> | <b>601</b> | <b>761</b> | <b>921</b> |
| <b>141</b> | <b>301</b> | <b>461</b> | <b>621</b> | <b>781</b> | <b>941</b> |

If NPC numbers are expressed in four digits, the valid values are:

SR and MJ type NPC numbers listed by unit number, Unit Type DP (DSPU)

| Unit<br>1   | Unit<br>2   | Unit<br>3   | Unit<br>4   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0001</b> | <b>0161</b> | <b>0321</b> | <b>0481</b> |
| <b>0021</b> | <b>0181</b> | <b>0341</b> | <b>0501</b> |
| <b>0041</b> | <b>0201</b> | <b>0361</b> | <b>0521</b> |
| <b>0061</b> | <b>0221</b> | <b>0381</b> | <b>0541</b> |
| <b>0081</b> | <b>0241</b> | <b>0401</b> | <b>0561</b> |
| <b>0101</b> | <b>0261</b> | <b>0421</b> | <b>0581</b> |
| <b>0121</b> | <b>0281</b> | <b>0441</b> | <b>0601</b> |
| <b>0141</b> | <b>0301</b> | <b>0461</b> | <b>0621</b> |

| Unit<br>5   | Unit<br>6   | Unit<br>7   | Unit<br>8   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0641</b> | <b>0801</b> | <b>0961</b> | <b>1121</b> |
| <b>0661</b> | <b>0821</b> | <b>0981</b> | <b>1141</b> |
| <b>0681</b> | <b>0841</b> | <b>1001</b> | <b>1161</b> |
| <b>0701</b> | <b>0861</b> | <b>1021</b> | <b>1181</b> |
| <b>0721</b> | <b>0881</b> | <b>1041</b> | <b>1201</b> |
| <b>0741</b> | <b>0901</b> | <b>1061</b> | <b>1221</b> |
| <b>0761</b> | <b>0921</b> | <b>1081</b> | <b>1241</b> |
| <b>0781</b> | <b>0941</b> | <b>1101</b> | <b>1261</b> |
| Unit<br>9   | Unit<br>10  | Unit<br>11  | Unit<br>12  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1281</b> | <b>1441</b> | <b>1601</b> | <b>1761</b> |
| <b>1301</b> | <b>1461</b> | <b>1621</b> | <b>1781</b> |
| <b>1321</b> | <b>1481</b> | <b>1641</b> | <b>1801</b> |
| <b>1341</b> | <b>1501</b> | <b>1661</b> | <b>1821</b> |
| <b>1361</b> | <b>1521</b> | <b>1681</b> | <b>1841</b> |
| <b>1381</b> | <b>1541</b> | <b>1701</b> | <b>1861</b> |
| <b>1401</b> | <b>1561</b> | <b>1721</b> | <b>1881</b> |
| <b>1421</b> | <b>1581</b> | <b>1741</b> | <b>1901</b> |
| Unit<br>13  | Unit<br>14  | Unit<br>15  | Unit<br>16  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1921</b> | <b>2081</b> | <b>2241</b> | <b>2401</b> |
| <b>1941</b> | <b>2101</b> | <b>2261</b> | <b>2421</b> |
| <b>1961</b> | <b>2121</b> | <b>2281</b> | <b>2441</b> |
| <b>1981</b> | <b>2141</b> | <b>2301</b> | <b>2461</b> |
| <b>2001</b> | <b>2161</b> | <b>2321</b> | <b>2481</b> |
| <b>2021</b> | <b>2181</b> | <b>2341</b> | <b>2501</b> |
| <b>2041</b> | <b>2201</b> | <b>2361</b> | <b>2521</b> |
| <b>2061</b> | <b>2221</b> | <b>2381</b> | <b>2541</b> |

**wxkqr** - Hierarchical Substrate NPC number

**wx** - Unit number  
**k** - Module number  
**qr** - NPC number

The valid values are presented below:



SR and MJ NPC numbers listed by unit, module, and NPC Number  
Unit Type DP (DSPU)

|       |        |     |
|-------|--------|-----|
| Unit  | Module | NPC |
| 01-16 | 1-8    | 01  |

# **mju\_br\_data**

- MJU branch leg data in the form:

## **mju\_br\_data**

## *Explanation*

[v]rstggg/hh <ec> <mux>

External facility termination, error corrector and multiplexer information (see above)

edrstggg/hh <ec> <mux>

External facility termination, error corrector and multiplexer information (see above)

MJU ssss

MJU number to which this branch is internally connected

UASGN

Unassigned branch

# **br\_data**

- MJU branch connection data in the form:

[v]jklfff/nn

- External facility termination of branch

jklmnfff/nn

- External facility termination of branch

## **MJU-ssss**

- MJU number of cascaded MJU connected to branch

**UASGN** - Unassigned branch ( ec and mux = "---" )

**reason** - *Reason for denial*

*reason*

UNIT qq IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED

INVALID CHANNEL NUMBER FOR CHANNEL [s]abcddd  
CHANNEL [s]abcddd IS A PARITY CHANNEL  
NPC abc IS NOT A VALID NPC NUMBER  
CUSTOMER NUMBER MUST BE SPECIFIED FOR DS0B

NPC [s]abc IS NOT PART OF AN RT  
CHANNEL [s]abcddd IS NOT ESTABLISHED TO SR FEATURE

CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0A  
CHANNEL [s]abcddd  
CUSTOMER NUMBER ff IS OUT OF RANGE FOR DS0B  
CHANNEL [s]abcddd

## **UTL, QRY, SROOF, TO, ALL**

### **UTILITY QUERY**

#### **Explanation Of Command**

This message requests the framing status of a Subrate multiplexer that is associated with a single DS0B channel or a range of channels or all the DS0B channels in the frame.

The DS0B channels that are reported in the output message must be established and have active cross-connections where multiple channels are listed. Also listed are the carrier group alarm and the failure status of the digroup that is associated with the DS0B channel. This allows the user to determine if the out-of-frame condition is being caused by a failure in a digroup facility or in the equipment.

#### **Command**

##### **Nonhierarchical**

[I.56501]

UTL:FRM xy,SEQ ww:QRY,SROOF,{TO [s]abcddd[-eee]|ALL}!

##### **Hierarchical**

[I.56501]

UTL:FRM xy,SEQ ww:QRY,SROOF,{TO uvmpddd[-eee]|ALL}!

## Completion Message

### Nonhierarchical

[O.56501]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SROOF [s]abcddd 3 LN MSG:
CHAN DS0B STATUS NPC STATUS
[s]abcddd <mux_stat> <npc_stat> COMPL
```

**Note:** The above message applies if a single channel was requested.

[O.56501]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SROOF {[s]abcddd-eee|ALL} e LN MSG:
CHAN DS0B STATUS NPC STATUS
[[s]abcddd <dsob_stat> <npc_stat>]
[[s]abcddd <dsob_stat> <npc_stat>]
[s]abcddd <dsob_stat> <npc_stat> {EOM|COMPL}
```

.

```
[M hh:mm:ss xy,ww n[vv] UTL QRY SROOF {[s]abcddd-eee|ALL} e LN MSG:]
[[s]abcddd <dsob_stat> <npc_stat>]
[[s]abcddd <dsob_stat> <npc_stat>]
[[s]abcddd <dsob_stat> <npc_stat>]
[[s]abceee <dsob_stat> <npc_stat> COMPL]
```

**Note:** The above message, listing all established cross-connected channels, applies if a channel range or ALL was specified.

### Hierarchical

[O.56501]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SROOF uvmnpddd 3 LN MSG:
CHAN DS0B STATUS NPC STATUS
uvmnpddd <mux_stat> <npc_stat> COMPL
```

**Note:** The above message applies if a single channel was requested.

[O.56501]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SROOF {uvmnpddd-eee|ALL} e LN MSG:
CHAN          DS0B STATUS          NPC STATUS
[uvmnpddd     <dsob_stat>          <npc_stat>]
[uvmnpddd     <dsob_stat>          <npc_stat>]
uvmnpddd      <dsob_stat>          <npc_stat> {EOM|COMPL}
```

.  
.  
.

```
[M hh:mm:ss xy,ww n[vv] UTL QRY SROOF {uvmnpddd-eee|ALL} e LN MSG:]
[uvmnpddd     <dsob_stat>          <npc_stat>]
[uvmnpddd     <dsob_stat>          <npc_stat>]
[uvmnpddd     <dsob_stat>          <npc_stat>]
[uvmnppee     <dsob_stat>          <npc_stat> COMPL]
```

**Note:** The above message, listing all established cross-connected channels, applies if a channel range or ALL was specified.

## Common

---

[O.56502]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SROOF ALL 2 LN MSG:
NO DS0B CHANNELS ARE OUT-OF-FRAME COMPL
```

## Denial Message

---

## Nonhierarchical

---

[O.56501.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SROOF {[s]abcddd[-eee]|ALL} 2 LN MSG:
<reason> DNY
```

**Note:** The above message applies when there are no established DS0B channels with active cross-connections that are out-of-frame.

## Hierarchical

[O.56501.01]

M hh:mm:ss xy,ww n[vv] UTL QRY SROOF {uvmnpddd[-eee]|ALL} 2 LN MSG:  
<reason> DNY

**Note:** The above message applies when there are no established DS0B channels with active cross-connections that are out-of-frame.

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**SROOF** - Subrate out-of-frame

**TO** - To NPC

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |

| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical subrate or multijunction NPC number

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - Channel number  
**eee** - Channel number indicating end of channel range

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

The reported DS0B channels must be already established, and where multiple channels are listed, the DS0Bs must have active cross-connections. This utility also lists the CGA and failure status of the digroup associated with the DS0B to enable the user to determine if the OOF condition is being caused by a digroup facility or equipment failure.



**ALL** - All channels

The ALL keyword cannot be used simultaneously with a single channel or a range of channels.

**e** - The number of lines in the segment (2 through 5)

**mux\_stat**

- Status of DS0B multiplexer in the form:

| <i>mux_stat</i> | <i>Explanation</i>          |
|-----------------|-----------------------------|
| OOF             | Multiplexer is out-of-frame |
| ---             | Multiplexer is in-frame     |

**npc\_stat**

- Status of the facility terminating NPC specified as one or more of the following:

| <i>npc_stat</i> | <i>Explanation</i>                           |
|-----------------|----------------------------------------------|
| OOS             | NPC is out-of-service                        |
| FAIL            | NPC is in the fail state                     |
| ---             | NPC is not failed, out-of-service, or in CGA |
| CGA <state>     | NPC is in one of the following CGA state:    |

| <i>state</i> | <i>Explanation</i>              |
|--------------|---------------------------------|
| AIS          | Alarm Indication Signal         |
| RED          | Received DS-1 framing failure   |
| YEL          | Remote DS-1 framing failure     |
| LMA          | Loss of multiframe alignment    |
| RMA          | Remote multiframe alarm         |
| FFE          | Frame format error rate alarm   |
| LFV          | Loss of signal/line format      |
| MUL          | More than one CGA reported      |
| NA - UC OOS  | No access, UC is out-of-service |

dsob\_stat

- Status of the DS0B channel requested:

| <i>dsob_stat</i> | <i>Explanation</i>                |
|------------------|-----------------------------------|
| OOF              | Multiplexer is out-of-frame       |
| NA - SRM FAIL    | No access, SRM is failed          |
| NA - SRM PEST    | No access, SRM is pested          |
| NA - DSPU OOS    | No access, DSPU is out-of-service |
| NA - DSPU FAIL   | No access, DSPU is failed         |
| NA - DSPU PEST   | No access, DSPU is pested         |
| NA - DSPI OOS    | No access, DSPI is out-of-service |
| NA - DSPI FAIL   | No access, DSPI is failed         |
| NA - DSPI PEST   | No access, DSPI is pested         |

CHANNEL NOT ESTABLISHED AS DS0B      NO DS0B CHANNELS ARE  
OUT-OF-FRAME

**reason**      - Reason for denial

*reason*

UNIT [q]q IS NOT EQUIPPED  
NPC [s]abc IS NOT EQUIPPED

NPC [s]abc IS NOT PART OF AN RT  
CHANNEL [s]abcddd IS NOT ESTABLISHED AS DS0B

[s]abcdddd-fff IS AN INVALID RANGE OF CHANNELS

INVALID CHANNEL NUMBER FOR CHANNEL [s]abcddd  
NPC abc IS NOT A VALID NPC NUMBER

UNIT [q]q IS OUT-OF-SERVICE  
DSPI IN UNIT [q]q IS OUT-OF-SERVICE

UNIT [q]q IS FAILED  
DSPI IN UNIT [q]q IS FAILED

## **UTL, QRY, STATE, ACO**

### **UTILITY QUERY STATE ALARM CUT OFF**

#### **Explanation Of Command**

This message queries for the active or inactive status of the alarm cutoff.

#### **Command**

[I.54340]

UTL:FRM xy,SEQ ww:QRY,STATE,ACO!

#### **Completion Message**

[O.54340]

M hh:mm:ss xy ww n[vv] UTL QRY STATE ACO <mode> COMPL

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

Not applicable.

### Explanation Of Parameters

---

**STATE** - State

**ACO** - Alarm cut off

**mode** - Alarm mode

Current state of alarm cut off

*mode*

*Explanation*

ACTIVE

Alarm cutoff is active

INACT

Alarm cutoff is inactive

## **UTL, QRY, STATE, NPC**

### **UTILITY QUERY STATE**

#### **Explanation Of Command**

This message requests the provisioning and status information of a single Network Processing Circuit (NPC) or range of NPCs for one or more Facility Terminating Units (FTU) or DS3 Units (DS3U) or for a single Digital Signal Processing Unit (DSPU).

If the type of NPC specified is either DS1yz or DS6yz SLC carrier, the complete output message will be printed. If any other NPC type is specified, the second segment of the output format will not be printed.

In the output message, the "PREVIOUS SHORT INTERVAL" data should be ignored for the first 15 minutes following the execution of the CHG::SETOP (Message I.38201) or CHG::NPC, OPTS (Message I.38221) command. These CHG commands clear the stored data, which results in a value of zero being printed for the interval count.

**Note:** If the accumulated count of a parameter reaches or exceeds its programmed threshold, an autonomous alarm message is generated.

If an NPC range is specified in the input command, the following floating window rules apply:

- Unequipped NPCs within the requested range will be skipped.
- If a CEPT gap is within the requested range, the NPCs in the gap will be skipped.
- If an endpoint of the requested range is in a CEPT gap, then the NPCs in the portion of the range which is in the gap will be denied.

## Command

### Nonhierarchical

[I.56311]

UTL: [FRM xy, SEQ ww]: QRY, STATE, NPC [s]abc[-[t]def]!

### Hierarchical

[I.56311]

UTL: [FRM xy, SEQ ww]: QRY, STATE, NPC uvmnp[-wxkqr]!

## Completion Message

### Nonhierarchical

**Note:** The first following message segment will be output for each DE, DA, TE, and TA NPC. The second following message segment will be output in addition for DS NPCs.

[O.56311]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [s]abc TYPE mnxyz[ RESET] IW pq 5 LN MSG:
OOS FAIL PEST CGA OOF SLIP BER ERS SERS COFA CRC BPV FRER
a b c d wwwww fff st ccccc bbbbbb yyyyy fffff kkkkk ggggg
THRESHOLDS mmm nnn p q ttttt sss ttt uuu
OPTIONS e f g h i j k l {COND cc COMPL|EOM}
```

```
[M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [s]abc TYPE DSxyz[ RESET] IW pq 5 LN MSG:
SANE SAFE
uuuuu vvvvv
THRESHOLDS xxxxx zzzzz
OPTIONS p q COND cc COMPL]
```

**Note:** The following message segment will be output for each MB, SR, and MJ NPC.

[O.56312]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [s]abc TYPE mnxyz 2 LN MSG:
OOS a a FAIL b b PEST c c COMPL
```

**Note:** The following message segment will be output for each SP100 NPC.

[O.56313]

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [s]abc TYPE SP100 2 LN MSG:  
OOS a FAIL b PEST c COMPL

### Hierarchical

**Note:** The first following message segment will be output for each DE, DA, TE, and TA NPC. The second following message segment will be output in addition for DS NPCs.

[O.56311]

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC uvmnp TYPE mnxyz[ RESET] IW pq 5 LN MSG:  
OOS FAIL PEST CGA OOF SLIP BER ERS SERS COFA CRC BPV FRER  
a b c d wwwww fff st ccccc bbbbbb yyyyy fffff kkkkk ggggg  
THRESHOLDS mmm nnn p q ttttt sss ttt uuu  
OPTIONS e f g h i j k l {COND cc COMPL|EOM}

[M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC uvmnp TYPE DSxyz[ RESET] IW pq 5 LN MSG:  
SANE SAFE  
uuuuu vvvvv  
THRESHOLDS xxxxx zzzzz  
OPTIONS p q COND cc COMPL]

**Note:** The following message segment will be output for each MB, SR, and MJ NPC.

[O.56312]

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC uvmnp TYPE mnxyz 2 LN MSG:  
OOS a a FAIL b b PEST c c COMPL

**Note:** The following message segment will be output for each SP100 NPC.

[O.56313]

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC uvmnp TYPE SP100 2 LN MSG:  
OOS a FAIL b PEST c COMPL

## Denial Message

---

### Nonhierarchical

---

[O.56311.01]

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [s]abc UEQD DNY

[O.56311.02]

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [s]abc[-[t]def] COND cc DNY

### Hierarchical

---

[O.56311.01]

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC uvmnp UEQD DNY

[O.56311.02]

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC uvmnp[-wxkqr] COND cc DNY

## Autonomous Message

---

Not applicable.

## Explanation Of Parameters

---

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit starting nonhierarchical NPC number

**[t]def** - The 3- or 4-digit ending nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |



If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

MB type NPC numbers listed by unit number  
Unit Type DP (DSPU)

|                                                                                                                            |                                                                                                                            |                                                                                                                            |                                                                                                                            |                                                                                                                            |                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Unit<br>1                                                                                                                  | Unit<br>2                                                                                                                  | Unit<br>3                                                                                                                  | Unit<br>4                                                                                                                  | Unit<br>5                                                                                                                  | Unit<br>6                                                                                                                  |
| <b>NPC</b><br><b>001</b><br><b>021</b><br><b>041</b><br><b>061</b><br><b>081</b><br><b>101</b><br><b>121</b><br><b>141</b> | <b>NPC</b><br><b>161</b><br><b>181</b><br><b>201</b><br><b>221</b><br><b>241</b><br><b>261</b><br><b>281</b><br><b>301</b> | <b>NPC</b><br><b>321</b><br><b>341</b><br><b>361</b><br><b>381</b><br><b>401</b><br><b>421</b><br><b>441</b><br><b>461</b> | <b>NPC</b><br><b>481</b><br><b>501</b><br><b>521</b><br><b>541</b><br><b>561</b><br><b>581</b><br><b>601</b><br><b>621</b> | <b>NPC</b><br><b>641</b><br><b>661</b><br><b>681</b><br><b>701</b><br><b>721</b><br><b>741</b><br><b>761</b><br><b>781</b> | <b>NPC</b><br><b>801</b><br><b>821</b><br><b>841</b><br><b>861</b><br><b>881</b><br><b>901</b><br><b>921</b><br><b>941</b> |

If NPC numbers are expressed in four digits, the valid values are:

MB type NPC numbers listed by unit number  
Unit Type DP (DSPU)

| Unit<br>1   | Unit<br>2   | Unit<br>3   | Unit<br>4   |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0001</b> | <b>0161</b> | <b>0321</b> | <b>0481</b> |
| <b>0021</b> | <b>0181</b> | <b>0341</b> | <b>0501</b> |
| <b>0041</b> | <b>0201</b> | <b>0361</b> | <b>0521</b> |
| <b>0061</b> | <b>0221</b> | <b>0381</b> | <b>0541</b> |
| <b>0081</b> | <b>0241</b> | <b>0401</b> | <b>0561</b> |
| <b>0101</b> | <b>0261</b> | <b>0421</b> | <b>0581</b> |
| <b>0121</b> | <b>0281</b> | <b>0441</b> | <b>0601</b> |
| <b>0141</b> | <b>0301</b> | <b>0461</b> | <b>0621</b> |
| Unit<br>5   | Unit<br>6   | Unit<br>7   | Unit<br>8   |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>0641</b> | <b>0801</b> | <b>0961</b> | <b>1121</b> |
| <b>0661</b> | <b>0821</b> | <b>0981</b> | <b>1141</b> |
| <b>0681</b> | <b>0841</b> | <b>1001</b> | <b>1161</b> |
| <b>0701</b> | <b>0861</b> | <b>1021</b> | <b>1181</b> |
| <b>0721</b> | <b>0881</b> | <b>1041</b> | <b>1201</b> |
| <b>0741</b> | <b>0901</b> | <b>1061</b> | <b>1221</b> |
| <b>0761</b> | <b>0921</b> | <b>1081</b> | <b>1241</b> |
| <b>0781</b> | <b>0941</b> | <b>1101</b> | <b>1261</b> |
| Unit<br>9   | Unit<br>10  | Unit<br>11  | Unit<br>12  |
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1281</b> | <b>1441</b> | <b>1601</b> | <b>1761</b> |
| <b>1301</b> | <b>1461</b> | <b>1621</b> | <b>1781</b> |
| <b>1321</b> | <b>1481</b> | <b>1641</b> | <b>1801</b> |
| <b>1341</b> | <b>1501</b> | <b>1661</b> | <b>1821</b> |
| <b>1361</b> | <b>1521</b> | <b>1681</b> | <b>1841</b> |
| <b>1381</b> | <b>1541</b> | <b>1701</b> | <b>1861</b> |
| <b>1401</b> | <b>1561</b> | <b>1721</b> | <b>1881</b> |
| <b>1421</b> | <b>1581</b> | <b>1741</b> | <b>1901</b> |

| Unit<br>13  | Unit<br>14  | Unit<br>15  | Unit<br>16  |
|-------------|-------------|-------------|-------------|
| <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  | <b>NPC</b>  |
| <b>1921</b> | <b>2081</b> | <b>2241</b> | <b>2401</b> |
| <b>1941</b> | <b>2101</b> | <b>2261</b> | <b>2421</b> |
| <b>1961</b> | <b>2121</b> | <b>2281</b> | <b>2441</b> |
| <b>1981</b> | <b>2141</b> | <b>2301</b> | <b>2461</b> |
| <b>2001</b> | <b>2161</b> | <b>2321</b> | <b>2481</b> |
| <b>2021</b> | <b>2181</b> | <b>2341</b> | <b>2501</b> |
| <b>2041</b> | <b>2201</b> | <b>2361</b> | <b>2521</b> |
| <b>2061</b> | <b>2221</b> | <b>2381</b> | <b>2541</b> |

**uvmnp** - Starting hierarchical NPC number

**wxkqr** - Ending hierarchical NPC number defined for uvmnp

**uv, wx** - Unit number

**m, k** - Module number

**np, qr** - NPC number within the module

DE and DS type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

MB type NPC numbers listed by unit, module, and NPC Number

Unit Type DP (DSPU)

| Unit         | Module     | NPC       |
|--------------|------------|-----------|
| <b>01-16</b> | <b>1-8</b> | <b>01</b> |

**[t]ghi** - The 3- or 4-digit nonhierarchical NPC number (**[s]abc** through **[t]def**)

**edfgh** - Hierarchical NPC number (**uvmnp** through **wxkqr**)

**ed** - Unit number

**f** - Module number

**gh** - NPC number

**TYPE** - Type

**mxyz** - NPC-type identifier

| <i>mn</i> | <i>Explanation</i>            |
|-----------|-------------------------------|
| DA        | Dual digroup ANSI NPC         |
| DE        | Dual digroup NPC              |
| DS        | SLC® carrier NPC              |
| TA        | DS3U ANSI NPC                 |
| TE        | DS3U Noninterface unit NPC    |
| MB        | Digital multipoint bridge NPC |
| MJ        | Multipoint junction unit NPC  |
| SR        | Subrate multiplexer unit NPC  |

DE-type xyz fields

x - Multiframe format for the digroup

| <i>x</i> | <i>Explanation</i>                               |
|----------|--------------------------------------------------|
| 0        | Not assigned                                     |
| 1        | D4                                               |
| 2        | ESF - Voice                                      |
| 3        | ESF - Data                                       |
| 4        | DDST (T1DM - R bit connection via channel 24)    |
| 5-7      | Not assigned                                     |
| 8        | Ericsson Cellular format                         |
| 9        | No framing format, transparent (TRSP), clear-DS1 |

**y** - Line and signaling format

**y**      *Explanation*

- 0**      ZCS - Zero code suppression
- 1\***     NZCS - No zero code suppression
- 2\***     B8ZS - Bipolar with 8 zero substitution
- 3†**     ZBTSI - Zero-bit time-slot interchanger
- 4**      ZCS/DMI - Zero code suppression/DMI signaling
- 5**      NZCS/DMI - No zero code suppression/DMI signaling
- 6**      B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling
- 7-9**    Not assigned

\* Only options 1 and 2 are applicable to DE-type clear-DS1 NPC.

† Only valid with ESF (x = 2 or 3)

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format

**z**      *Explanation*

- 0**      D4 channel bank channel numbering
- 1**      D2 channel bank channel numbering
- 2**      D1D channel bank channel numbering
- 3-8**    Not assigned
- 9**      No channel numbering format, clear-DS1

DS-type xyz fields

**x** - Multiframe format

**x**      *Explanation*

- 0**      Not assigned
- 1**      D4
- 2**      ESF - Voice
- 3**      Not assigned
- 4**      Not assigned
- 5**      Not assigned
- 6**      SLC® 96 carrier Fs
- 7**      SLC 5 carrier ESF with data link
- 8-9**    Not assigned

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                      |
|------------|-----------------------------------------|
| <b>0</b>   | Zero code suppression (ZCS)             |
| <b>1</b>   | No zero code suppression (NZCS)         |
| <b>2</b>   | Bipolar with 8 zero substitution (B8ZS) |
| <b>3-9</b> | Not assigned                            |

**z** - Counting sequence format

| <b>z</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | SLC 96 carrier Mode III D4 counting sequence  |
| <b>1</b>   | SLC 96 carrier Mode III D1D counting sequence |
| <b>2</b>   | SLC 96 carrier Mode I D1D counting sequence   |
| <b>3</b>   | SLC Series 5 carrier D4 counting sequence     |
| <b>4-9</b> | Not assigned                                  |

TE-type xyz fields

**x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | Not assigned                                     |
| <b>1</b>   | D4                                               |
| <b>2</b>   | ESF - Voice                                      |
| <b>3</b>   | ESF - Data                                       |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24)    |
| <b>5-7</b> | Not assigned                                     |
| <b>8</b>   | Ericsson Cellular format                         |
| <b>9</b>   | No framing format, transparent (TRSP), clear-DS1 |

**y** - Line and signaling format

**y**      *Explanation*

- 0**      ZCS - Zero code suppression
- 1\***     NZCS - No zero code suppression
- 2**      Not assigned
- 3**      Not assigned
- 4**      ZCS/DMI - Zero code suppression/DMI signaling
- 5**      NZCS/DMI - No zero code suppression/DMI signaling
- 6-9**   Not assigned

\* Only option 1 is applicable to TE-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format

**z**      *Explanation*

- 0**      D4 channel bank channel numbering
- 1**      D2 channel bank channel numbering
- 2**      D1D channel bank channel numbering
- 3-8**   Not assigned
- 9**      No channel numbering format, clear-DS1

TA-type xyz fields

**x** - Multiframe format for the digroup

**x**      *Explanation*

- 0**      Not assigned
- 1**      D4
- 2**      ESF - Voice
- 3**      ESF - Data
- 4**      DDST (T1DM - R bit connection via channel 24)
- 5-7**   Not assigned
- 8**      Ericsson Cellular format
- 9**      Not assigned



**y** - Line and signaling format

**y**      *Explanation*

**0**      ZCS - Zero code suppression

**1\***     NZCS - No zero code suppression

**2**      Not assigned

**3**      Not assigned

**4**      ZCS/DMI - Zero code suppression/DMI signaling

**5**      NZCS/DMI - No zero code suppression/DMI signaling

**6-9**   Not assigned

\* Only option 1 is applicable to TA-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

**z** - Channel numbering format

**z**      *Explanation*

**0**      D4 channel bank channel numbering

**1**      D2 channel bank channel numbering

**2**      D1D channel bank channel numbering

**3-8**   Not assigned

**9**      Unchannelized 193-bit Clear DS1 Cross-connection

TA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a TA NPC with both a valid framing format (D4,ESF,T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the TA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as NPC type TE919.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the TA NPC type. If ZBTSI is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as a TE NPC type with its **y** option selecting ZBTSI (**TE<sub>x</sub>3<sub>z</sub>**).

MB-type xyz fields

**x**      - Fixed at 1

**y**      - Fixed at 0

**z**      - Fixed at 0

SR- and MJ-type xyz fields

- x** - Fixed at 1
- y** - Fixed at 0
- z** - Fixed at 0

**RESET** - Indicates that one or more autonomous resets have occurred.

**IW** - Insertion word

**pq** - Insertion word value (Hexadecimal)

Also referred to as the Disconnect Code (DCC) or idle code. This value is inserted in the transmit direction on unassigned channels. DCC is not applicable to clear-DS1 NPCs, and is not printed. Some common disconnect codes are:

| <b>pq</b> | <i>Explanation</i> |
|-----------|--------------------|
|-----------|--------------------|

- |           |                                                                                                                |
|-----------|----------------------------------------------------------------------------------------------------------------|
| <b>7F</b> | Unassigned Channel code (UAC), the default value                                                               |
| <b>18</b> | Unassigned Multiplex Code (UMC), should only be used with type DE4yz, for a T1DM formatted facility.           |
| <b>FF</b> | Per channel all ones code, needed for not connected channels in SLC <sup>®</sup> carrier and CPI applications. |

**OOS** - Out-of-Service

**a** - Out of Service flag, applies to FTU NPCs and DSP NPCs on Side 0

**a** - Out of Service flag, applies to DSP NPCs on Side 1

| <i>a, a</i> | <i>Explanation</i> |
|-------------|--------------------|
|-------------|--------------------|

- |          |                    |
|----------|--------------------|
| <b>1</b> | Out-of-service     |
| <b>0</b> | Not Out-of-service |

**FAIL** - Fail

**b** - Failed flag, applies to FTU NPCs and DSP NPCs on Side 0

**b** - Failed flag, applies to DSP NPCs on Side 1

| <i>b, b</i> | <i>Explanation</i> |
|-------------|--------------------|
|-------------|--------------------|

- |          |            |
|----------|------------|
| <b>1</b> | Failed     |
| <b>0</b> | Not failed |

**PEST** - Pest

- c** - Pested flag, applies to FTU NPCs and DSP NPCs on Side 0
- c** - Pested flag, applies to DSP NPCs on Side 1

*c, c Explanation*

- 1** Pested
- 0** Not pested

**CGA** - Carrier group alarm

- d** - Carrier Group Alarm flag

*d Explanation*

- 0** No CGA
- A** Alarm Indication Signal (AIS) CGA (non-alarmed)
- B** Both Yellow and Red CGA (SLC Series 5 NPCs only)
- L** LMA - Local Multiframe Alarm
- M** RMA - Remote Multiframe Alarm
- R** Red CGA
- Y** Yellow CGA

**Note:** The facility monitoring parameters accumulated by the NPC are described below. If the queried NPC can not be accessed for some reason, for example because the Facility Terminating Module is not equipped or the FTMI or Unit Controller is out of service, then the NPC's parameter count fields are printed as a string of dashes to indicate that the counts are not available. The parameter thresholds and options are still correctly output in this case.

In addition, some parameters are not applicable to all NPCs. Certain parameters may or may not be collected based on NPC type, whether the NPC is equipped in a Facility Terminating Unit (DE type NPC) or a DS3 Unit (TE type NPC) and whether the NPC carries a Clear or Channelized facility. In the cases where specific parameters do not apply to the queried NPC, the respective parameter count fields, threshold values and threshold options are all displayed as a string of dashes.

**00F** - Out-of-Frame

**www** - Out-of-Frame count

**SLIP** - Slip

**fff** - Slip count

**mmm** - Slip major alarm threshold (0 through 255)

The value zero indicates that Slip major threshold crossing alarms are disabled.

**e** - Slip major alarm option selection (0 through 3)

**nnn** - Slip minor alarm threshold (0 through 255)

A value of 000 indicates that the Slip minor threshold crossing alarms are disabled. The Slip minor alarm threshold can not be set to zero unless the Slip major alarm threshold is first set to zero. When the slip minor and major thresholds are not disabled, the major threshold must be greater than the minor threshold.

**f** - Slip minor alarm option selection (0 through 3)

**BER** - Bit error rate

**st** - BER alarm status

**st**     *Explanation*

**CL**     BER alarm cleared

**ER**     Error Rate

**MJ**     Major Bit Error Rate

**MN**     Minor Bit Error Rate

**p** - BER major alarm threshold, (1E-p, p can range from 3 through 6\*)

**q** - BER minor alarm threshold, (1E-q, q can range from 3 through 6\*)

**Note:** \* p can range to 7 on T1DM and Fe framing  
q ranges from 4 for TG80B or TG186 circuit pack provisioned as clear-DS1

**g** - BER major alarm option selection (0 through 3)

**h** - BER minor alarm option selection (0 through 3)

**Note:** Major thresholds may not be equal to minor thresholds.

**ERS** - Errored Seconds

**cccc** - ERS count

**tttt** - ERS threshold

**i** - ERS option selection (0 through 3)

**SERS** - Severely Errored Seconds

**bbbb** - SERS count

**sss** - SERS threshold (1 through 255)

**j** - SERS option selection (0 through 3)

**COFA** - Change of frame alignment

**yyyy** - COFA count

**ttt** - COFA major alarm threshold (1 through 511)

**k** - COFA major alarm option selection (0 through 3)

**uuu** - COFA minor alarm threshold (1 through 255)

**l** - COFA minor alarm option selection (0 through 3)

**Note:** Major thresholds may not be equal to minor thresholds.

**BPV** - Bipolar violation

**kkkk** - BPV count

**Note:** This field will be filled with ----- for a TE type NPC.

**SANE** - Shelf alarm near end

**uuuuu** - SANE count

**xxxxx** - SANE threshold (1 through 65535)

**p** - SANE alarm option selection (0 through 3)

**SAFE** - Shelf alarm far end

**Note:** The SAFE parameter is not applicable for the Digroup P (DGP) of SLC 96 RTs. Therefore, dashes ("-") are used in the SAFE count (vvvvv), threshold (zzzzz), and option (q) fields for NPCs provisioned as SLC 96 DGPs.

**vvvvv** - SAFE count

**zzzzz** - SAFE threshold (1 through 65535)

**q** - SAFE alarm option selection (0 through 3)

**cc** - Hexadecimal condition code

**cc**    *Explanation*

|           |                                  |
|-----------|----------------------------------|
| <b>00</b> | No conditions                    |
| <b>04</b> | Subject entity is out of service |
| <b>11</b> | UC is out of service             |
| <b>12</b> | UC is in service but failed      |
| <b>14</b> | FTMI is out of service           |
| <b>1F</b> | FTMI is in service but failed    |
| <b>0B</b> | Invalid CEPT NPC                 |
| <b>46</b> | NPC Failed or Out of Service     |
| <b>AE</b> | MXR is failed                    |
| <b>AF</b> | MIU is failed                    |
| <b>B1</b> | FMT is out of service            |
| <b>B2</b> | MXR is out of service            |
| <b>CF</b> | MIU is out of service            |

## **UTL, QRY, STATE, NPC**

### **UTILITY QUERY NPC STATE**

#### **Explanation Of Command**

This message requests the provisioning and status information of a single Network Processing Circuit (NPC) or range of NPCs. The output format shown in this message applies to DA and TA type NPCs in one or more Facility Terminating Unit(s) (FTU) or DS3 Units (DS3U).

Similar information for other domestic and international NPC types are retrieved using message 56311.

If an NPC range is specified in the input command, the following floating window rules apply:

- Unequipped NPCs within the requested range will be skipped.
- For gateway frames, if a CEPT gap is within the requested range, the NPCs in the gap will be skipped.
- For gateway frames, if an endpoint of the requested range is in a CEPT gap, then the NPCs in the portion of the range which is in the gap will be denied.

**NOTE:** Similar information for other NPC types are given by message 56311.

#### **Command**

#### **Nonhierarchical**

[I.56314]

UTL:FRM xy, SEQ ww:QRY, STATE, NPC [s]abc[-[t]def]!

## Hierarchical

[I.56314]

UTL:FRM xy, SEQ ww:QRY, STATE, NPC uvmnp[-wxqqr]!

## Completion Message

### Nonhierarchical

[O.56314]

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [t]ghi TYPE mnxyz[ IW pq] 3 LN MSG:  
OOS FAIL PEST CGA LOS NE-STATUS FE-STATUS  
q r s t u furyatlo fumcablo EOM

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [t]ghi TYPE mnxyz[ IW pq] 5 LN MSG:  
DAILY NE CVP ESP SESP SEFS CSSP UASP CVL ESL SESL  
COUNTS aaaaaaaaaa bbbbbb cccccc dddddd eeeee fffff gggggggggg hhhhh iiiii  
THRESHOLDS aaaaaaaaaa bbbbbb cccccc dddddd eeeee fffff gggggggggg hhhhh iiiii  
OPTIONS a b c d e f g h i EOM

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [t]ghi TYPE mnxyz[ IW pq] 5 LN MSG:  
DAILY FE CVP ESP SESP SEFS CSSP UASP ESL  
COUNTS jjjjjjjjj kkkkk lllll mmmmm nnnnn ooooo ppppp  
THRESHOLDS jjjjjjjjj kkkkk lllll mmmmm nnnnn ooooo ppppp  
OPTIONS j k l m n o p EOM

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [t]ghi TYPE mnxyz[ IW pq] 5 LN MSG:  
15MIN NE CVP ESP SESP SEFS CSSP UASP CVL ESL SESL  
COUNTS aaaaaaa bbb ccc ddd eee fff gggggggg hhh iii  
THRESHOLDS aaaaaaa bbb ccc ddd eee fff gggggggg hhh iii  
OPTIONS a b c d e f g h i EOM

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [t]ghi TYPE mnxyz[ IW pq] 5 LN MSG:  
15MIN FE CVP ESP SESP SEFS CSSP UASP ESL  
COUNTS jjjjjjj kkk lll mmm nnn ooo ppp  
THRESHOLDS jjjjjjj kkk lll mmm nnn ooo ppp  
OPTIONS j k l m n o p COND kk COMPL



## Hierarchical

[O.56314]

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC edhfg TYPE mnxyz[ IW pq] 3 LN MSG:  
OOS FAIL PEST CGA LOS NE-STATUS FE-STATUS  
q r s t u furyatlo fumbablo EOM

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC edhfg TYPE mnxyz[ IW pq] 5 LN MSG:  
DAILY NE CVP ESP SESP SEFS CSSP UASP CVL ESL SESL  
COUNTS aaaaaaaaaa bbbbbb cccccc dddddd eeeee ffffff gggggggggg hhhhhh iiiiii  
THRESHOLDS aaaaaaaaaa bbbbbb cccccc dddddd eeeee ffffff gggggggggg hhhhhh iiiiii  
OPTIONS a b c d e f g h i EOM

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC edhfg TYPE mnxyz[ IW pq] 5 LN MSG:  
DAILY FE CVP ESP SESP SEFS CSSP UASP ESL  
COUNTS jjjjjjjjj kkkkkk llllll mmmmm nnnnnn oooooo pppppp  
THRESHOLDS jjjjjjjjj kkkkkk llllll mmmmm nnnnnn oooooo pppppp  
OPTIONS j k l m n o p EOM

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC edhfg TYPE mnxyz[ IW pq] 5 LN MSG:  
15MIN NE CVP ESP SESP SEFS CSSP UASP CVL ESL SESL  
COUNTS aaaaaaaa bbb ccc ddd eee fff gggggggg hhh iii  
THRESHOLDS aaaaaaaa bbb ccc ddd eee fff gggggggg hhh iii  
OPTIONS a b c d e f g h i EOM

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC edhfg TYPE mnxyz[ IW pq] 5 LN MSG:  
15MIN FE CVP ESP SESP SEFS CSSP UASP ESL  
COUNTS jjjjjjj kkk lll mmm nnn ooo ppp  
THRESHOLDS jjjjjjj kkk lll mmm nnn ooo ppp  
OPTIONS j k l m n o p COND kk COMPL

## Denial Message

## Nonhierarchical

[O.56314.01]

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [t]ghi COND cc DNY

## Hierarchical

[O.56314.01]

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC edhfg COND cc DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**NPC** - Network Processing Circuit

**[s]abc** - The first 3- or 4-digit nonhierarchical NPC Number of a range  
**[t]def** - The last 3- or 4-digit nonhierarchical NPC Number of a range  
**[t]ghi** - A 3- or 4-digit nonhierarchical NPC number ([s]abc through [t]def)

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - The first hierarchical NPC number of a range

**wxkqr** - The last hierarchical NPC number of a range

**edhfg** - A 3- or 4-digit hierarchical NPC number (uvmnp through wxkqr)

**uv, wx** - Unit number  
**m, k** - Module number  
**np, qr** - NPC number within the module

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**mnxyz** - NPC type

**DAxyz** - FTU ANSI NPC  
**TAxyz** - DS3U ANSI NPC

DA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

**y**      *Explanation*

- 0**      ZCS - Zero code suppression
- 1\***     NZCS - No zero code suppression
- 2\***     B8ZS - Bipolar with 8 zero substitution
- 3**      Not assigned
- 4**      ZCS/DMI - Zero code suppression/DMI signaling
- 5**      NZCS/DMI - No zero code suppression/DMI signaling
- 6**      B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling
- 7-9**   Not assigned

\* Only options 1 and 2 are applicable to DA-type clear-DS1 NPC.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

**z** - Channel numbering format

**z**      *Explanation*

- 0**      D4 channel bank channel numbering
- 1**      D2 channel bank channel numbering
- 2**      D1D channel bank channel numbering
- 3-8**   Not assigned
- 9**      Unchannelized 193-bit Clear DS1 Cross-connection

DA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a DA NPC with both a valid framing format (D4, ESF, T1DM) using the x field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the z field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the DA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II FTU, the NPC must be provisioned as NPC type **DE9y9**.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the DA NPC type. If ZBTSI is desired on an NPC in a DACS II FTU, the NPC must be provisioned as a DE NPC type with its y option selecting ZBTSI (**DEx3z**).

# TA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                |
|------------|---------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                       |
| <b>1*</b>  | NZCS - No zero code suppression                   |
| <b>2</b>   | Not assigned                                      |
| <b>3</b>   | Not assigned                                      |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling     |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling |
| <b>6-9</b> | Not assigned                                      |

\* Only option 1 is applicable to TA-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering                |
| <b>1</b>   | D2 channel bank channel numbering                |
| <b>2</b>   | D1D channel bank channel numbering               |
| <b>3-8</b> | Not assigned                                     |
| <b>9</b>   | Unchannelized 193-bit Clear DS1 Cross-connection |

TA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a TA NPC with both a valid framing format (D4,ESF,T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the TA NPC type. If an unframed Clear DS1

cross-connection is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as NPC type TE919.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the TA NPC type. If ZBTSI is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as a TE NPC type with its **y** option selecting ZBTSI (**TEx3z**).

**IW** - Insertion Word

**pq** - Hexadecimal value of the DCC (disconnect code)

This value is inserted in the transmit direction on unassigned channels. DCC is not applicable to Clear-DS1 NPCs, and is not printed. Although any 2-digit hexadecimal code may be specified, the following are commonly used codes:

| <i>pq</i> | <i>Explanation</i>                                                                                              |
|-----------|-----------------------------------------------------------------------------------------------------------------|
| 7F        | UAC (Unassigned Channel code), the default value.                                                               |
| 18        | UMC (Unassigned Multiplex Code), should only be used with types DA4yz and TA4yz, for a T1DM formatted facility. |

**OOS** - Out-of-Service

**q** - Out-of-service indicator

| <i>q</i> | <i>Explanation</i>        |
|----------|---------------------------|
| 1        | NPC is out-of-service     |
| 0        | NPC is not out-of-service |

**FAIL** - Failed

**r** - Failed indicator

| <i>r</i> | <i>Explanation</i> |
|----------|--------------------|
| 1        | NPC is failed      |
| 0        | NPC is not failed  |

**PEST** - Pested

**s** - Pested indicator

| <i>s</i> | <i>Explanation</i> |
|----------|--------------------|
| 1        | NPC is pested      |
| 0        | NPC is not pested  |

**CGA** - Carrier group alarm  
**t** - Carrier group alarm indicator

| <i>t</i> | <i>Explanation</i>                |
|----------|-----------------------------------|
| A        | Alarm Indication Signal (AIS) CGA |
| L        | LMA - Local Multiframe Alarm      |
| M        | RMA - Remote Multiframe Alarm     |
| O        | No CGA                            |
| R        | Red CGA                           |
| Y        | Yellow CGA                        |

**LOS** - Loss of signal  
**u** - Loss of signal indicator

| <i>u</i> | <i>Explanation</i> |
|----------|--------------------|
| 1        | LOS alarm          |
| 0        | No LOS alarm       |
| -        | Not applicable     |

**Note:** The LOS alarm indicator is displayed as a dash for ANSI NPCs which are equipped in a DS3 Unit (TA type NPCs) because the LOS alarm does not apply to them. TA type NPCs can not monitor DS1 line failures (LOS) because the line signal is at the DS3 rate.

#### NE-STATUS

- Near-end Circuit Status

furyatlo

- The bits in the near-end byte identify the following alarm/status conditions:

#### *Field Explanation*

|   |                                                       |
|---|-------------------------------------------------------|
| f | f = 1, if u or r or y or a or t or l or o = 1         |
| u | u = 1, if an unavailable signal status exists         |
| r | r = 1, if a Red-CGA exists                            |
| y | y = 1, if a Yellow-CGA exists                         |
| a | a = 1, if an AIS-CGA exists                           |
| t | t = 0, (unused)                                       |
| l | l = 1, if a payload loopback or test signal is active |
| o | o = 0, (unused)                                       |



## FE-STATUS

- Far-end Circuit Status

fumcablo

- The bits in the far-end byte identify the following alarm/status conditions:

### *Field Explanation*

|   |                                                                 |
|---|-----------------------------------------------------------------|
| f | f = 1, if u or m or c or a or b or l or o = 1                   |
| u | u = 1, if a far-end unavailable signal status exists            |
| m | m = 1, if no ANSI PRMs or RAI has been received for 4.5 seconds |
| c | c = 1, if loopback retention code is being received             |
| a | a = 1, if a far-end AIS-CGA or Red-CGA exists                   |
| b | b = 1, if loopback retention code is being transmitted          |
| l | l = 1, if a far-end payload loopback is active                  |
| o | o = 0, (unused)                                                 |

### *Parameter Explanation*

|      |                                  |
|------|----------------------------------|
| CVP  | Path Coding Violations           |
| CVL  | Line Coding Violations           |
| ESP  | Path Errored Seconds             |
| ESL  | Line Errored Seconds             |
| SESP | Path Severely Errored Seconds    |
| SESL | Line Severely Errored Seconds    |
| SEFS | Severely Errored Framing Seconds |
| CSSP | Path Controlled Slip Seconds     |
| UASP | Path Unavailable Seconds         |

**Note:** If the queried NPC can not be accessed for some reason, for example because the Facility Terminating Module is not equipped or the FTMI or Unit Controller is out of service, then the NPC's parameter count fields are printed as a string of dashes to indicate that the counts are not available. The parameter thresholds and options will still be correctly output.

In addition, certain parameters do not apply to ANSI NPCs depending on whether the NPC is equipped in a Facility Terminating Unit (DA type NPCs) or a DS3 Unit (TA type NPCs) and whether the NPC is using ESF framing or not. In the cases where specific parameters do not apply to the queried NPC, the respective parameter count fields, threshold values and threshold options are all displayed as a string of dashes. Specifically:

For Channelized and Clear-DS1 DA type NPCs with ESF framing, all of the Near-end and Far-end parameters are valid.

For Channelized and Clear-DS1 DA type NPCs with D4 or T1DM framing, all of the Near-end parameters are valid, but the only valid Far-end parameter is Unavailable Seconds.

For Channelized and Clear-DS1 TA type NPCs with ESF framing, all of the Near-end Path parameters are valid, but the Near-End Line parameters are invalid. All of the Far-end parameters are valid.

For Channelized and Clear-DS1 TA type NPCs with D4 or T1DM framing, the Near-end Path parameters are valid, but the Near-End Line parameters are invalid. The only valid Far-end parameter is Unavailable Seconds.

#### **CVP (Path Coding Violations)**

```

aaaaaaa[aa]
- CVP NE 15 Minute/Daily interval count
jjjjjjj[jj]
- CVP FE 15 Minute/Daily interval count
aaaaaaa[aa]
- CVP NE 15 Minute/Daily interval threshold
jjjjjjj[jj]
- CVP FE 15 Minute/Daily interval threshold
a          - CVP NE 15 Minute/Daily interval threshold option (0 to 3)
j          - CVP FE 15 Minute/Daily interval threshold option (0 to 3)

```

**ESP (Path Errored Seconds)**

bbb[bb]  
- ESP NE 15 Minute/Daily interval count  
kkk[kk]  
- ESP FE 15 Minute/Daily interval count  
bbb[bb]  
- ESP NE 15 Minute/Daily interval threshold  
kkk[kk]  
- ESP FE 15 Minute/Daily interval threshold  
b - ESP NE 15 Minute/Daily interval threshold option (0 to 3)  
k - ESP FE 15 Minute/Daily interval threshold option (0 to 3)

**SESP (Path Severely Errored Seconds)**

ccc[cc]  
- SESP NE 15 Minute/Daily interval count  
lll[ll]  
- SESP FE 15 Minute/Daily interval count  
ccc[cc]  
- SESP NE 15 Minute/Daily interval threshold  
lll[ll]  
- SESP FE 15 Minute/Daily interval threshold  
c - SESP NE 15 Minute/Daily interval threshold option (0 to 3)  
l - SESP FE 15 Minute/Daily interval threshold option (0 to 3)

**SEFS (Severely Errored Framing Seconds)**

ddd[dd]  
- SEFS NE 15 Minute/Daily interval count  
mmm[mm]  
- SEFS FE 15 Minute/Daily interval count  
ddd[dd]  
- SEFS NE 15 Minute/Daily interval threshold  
mmm[mm]  
- SEFS FE 15 Minute/Daily interval threshold  
d - SEFS NE 15 Minute/Daily interval threshold option (0 to 3)  
m - SEFS FE 15 Minute/Daily interval threshold option (0 to 3)

**CSSP (Path Controlled Slip Seconds)**

eee[ee]  
- CSSP NE 15 Minute/Daily interval count  
nnn[nn]  
- CSSP FE 15 Minute/Daily interval count  
eee[ee]  
- CSSP NE 15 Minute/Daily interval threshold  
nnn[nn]  
- CSSP FE 15 Minute/Daily interval threshold  
e - CSSP NE 15 Minute/Daily interval threshold option (0 to 3)  
n - CSSP FE 15 Minute/Daily interval threshold option (0 to 3)

**UASP (Path Unavailable Seconds)**

fff[ff]  
- UASP NE 15 Minute/Daily interval count  
ooo[oo]  
- UASP FE 15 Minute/Daily interval count  
fff[ff]  
- UASP NE 15 Minute/Daily interval threshold  
ooo[oo]  
- UASP FE 15 Minute/Daily interval threshold  
f - UASP NE 15 Minute/Daily interval threshold option (0 to 3)  
o - UASP FE 15 Minute/Daily interval threshold option (0 to 3)

**CVL (Line Coding Violations)**

ggggggg[gg]  
- CVL NE 15 Minute/Daily interval count  
ggggggg[gg]  
- CVL NE 15 Minute/Daily interval threshold  
g - CVL NE 15 Minute/Daily interval threshold option (0 to 3)

**ESL (Line Errored Seconds)**

hhh[hh]  
- ESL NE 15 Minute/Daily interval count  
ppp[pp]  
- ESL FE 15 Minute/Daily interval count  
hhh[hh]  
- ESL NE 15 Minute/Daily interval threshold  
ppp[pp]  
- ESL FE 15 Minute/Daily interval threshold  
h - ESL NE 15 Minute/Daily interval threshold option (0 to 3)  
p - ESL FE 15 Minute/Daily interval threshold option (0 to 3)

**SESL (Line Severely Errored Seconds)**

**iii[ii]**  
- SESL NE 15 Minute/Daily interval count  
**iii[ii]**  
- SESL NE 15 Minute/Daily interval threshold  
**i** - SESL NE 15 Minute/Daily interval threshold option (0 to 3)

**kk** - Hexadecimal completion condition code  
**cc** - Hexadecimal denial condition code

**uvmnp** - The first hierarchical NPC number of a range.  
**wxkqr** - The last hierarchical NPC number of a range.  
**edhfg** - A 3- or 4-digit hierarchical NPC number, where  
( $uvmnp \leq edhfg \leq wxkqr$ )

**uv,wx** - Unit number  
**m,k** - Module number  
**np,qr** - NPC number within the module

**COND** - Condition

**kk** - Hexadecimal completion condition code  
**cc** - Hexadecimal denial condition code

**cc** - Hexadecimal condition code

**cc Explanation**

**00** No conditions  
**04** Subject entity is out of service  
**11** UC is out of service  
**12** UC is in service but failed  
**14** FTMI is out of service  
**0B** Invalid CEPT NPC  
**46** NPC Failed or Out of Service  
**AE** MXR is failed  
**AF** MIU is failed  
**B1** FMT is out of service  
**B2** MXR is out of service  
**CF** MIU is out of service

## **UTL, QRY, STATE, SCDG, NPC, RT, DL, ALL**

### **UTILITY QUERY SCDG**

#### **Explanation Of Command**

This message requests a printout of the list of SLC<sup>®</sup> carrier digroups (DCLU) terminated on this frame. Additionally, if the STATE option is used on the input message, the system reports the status of the digroup(s) with regard to protection switching, line loopback, and the outstanding alarm states.

For Message O.52322, the appearance order for the RTs and DLs (for digital carrier line unit) is such that the RT with the smallest identification number appears first, followed by the DL that has the same identification number.

If a DL is found without the same identification number, then the RT with the next smallest identification number appears next, and so on.

If an RT (DL) is not terminated on this frame, then the output message only includes the first line of the message with the SLC carrier or DCLU digroup value set to zero.

For Message O.52321 and if the NPC number is entered, the RT or DL id number and the operation mode number are shown in the first output line.

The power/miscellaneous (sss) option shows a SLC 96 carrier RT if it is specified in the ADD::RT command.

The retrofit (RTF) option shows a retrofit SLC carrier RT with FPC.

## Command

### Nonhierarchical

[I.52321]

UTL:FRM xy,SEQ ww:QRY[,STATE],SCDG,{NPC [s]abc|RT ffff|\  
DL ffff|ALL}!

### Hierarchical

[I.52321]

UTL:FRM xy,SEQ ww:QRY[,STATE],SCDG,{NPC uvmnp|RT ffff|\  
DL ffff|ALL}!

## Completion Message

### Nonhierarchical

[O.52321]

M hh:mm:ss xy,ww n[vv] UTL QRY[ STATE] SCDG {NPC [s]abc|RT ffff|\  
DL ffff} [ {RT|DL} gggg MD g[g]] [ {sss|NDL|RTF}] e LN MSG:  
[PLSW [DGA [t]aaa] [DGB [t]bbb] [DGC [t]ccc] [DGD [t]ddd] [DGP [t]ppp]  
xxxx xxxx xxxx xxxx ----]  
[LLB xxxx xxxx xxxx xxxx xxxx]  
[ALST xxxx xxxx xxxx xxxx] COMPL

[O.52322]

M hh:mm:ss xy,ww n[vv] UTL QRY[ STATE] SCDG llll ALL {EOM|COMPL}

M hh:mm:ss xy,ww n[vv] UTL QRY[ STATE] SCDG mmm {RT|DL} ffff MD \  
g[g]] [ {sss|NDL|RTF}] e LN MSG:  
[PLSW [DGA [t]aaa] [DGB [t]bbb] [DGC [t]ccc] [DGD [t]ddd] [DGP [t]ppp]  
xxxx xxxx xxxx xxxx ----]  
[LLB xxxx xxxx xxxx xxxx xxxx]  
[ALST xxxx xxxx xxxx xxxx] {EOM|COMPL}  
.  
.  
.

M hh:mm:ss xy,ww n[vv] UTL QRY[ STATE] SCDG mmm {RT|DL} hhhh MD \  
g[g]] [ {sss|NDL|RTF}] e LN MSG:  
[PLSW [DGA [t]aaa] [DGB [t]bbb] [DGC [t]ccc] [DGD [t]ddd] [DGP [t]ppp]  
xxxx xxxx xxxx xxxx ----]  
[LLB xxxx xxxx xxxx xxxx xxxx]  
[ALST xxxx xxxx xxxx xxxx] {EOM|COMPL}

## Hierarchical

[O.52321]

```
M hh:mm:ss xy,ww n[vv] UTL QRY[ STATE] SCDG {NPC uvmnp|RT ffff|DL ffff}\
[ {RT|DL} gggg MD g[g]] [ {sss|NDL|RTF}] e LN MSG:
      [DGA uvjaa]   [DGB uvkbb]   [DGC uvlcc]   [DGD uvmd]   [DGP uvjpp]
[PLSW  xxxx        xxxx          xxxx          xxxx          ----]
[LLB   xxxx        xxxx          xxxx          xxxx          xxxx]
[ALST  xxxx        xxxx          xxxx          xxxx          xxxx] COMPL
```

[O.52322]

```
M hh:mm:ss xy,ww n[vv] UTL QRY[ STATE] SCDG llll ALL {EOM|COMPL}

M hh:mm:ss xy,ww n[vv] UTL QRY[ STATE] SCDG mmm {RT|DL} ffff MD g[g]\
[ {sss|NDL|RTF}] e LN MSG:
      [DGA uvjaa]   [DGB uvkbb]   [DGC uvlcc]   [DGD uvmd]   [DGP uvjpp]
[PLSW  xxxx        xxxx          xxxx          xxxx          ----]
[LLB   xxxx        xxxx          xxxx          xxxx          xxxx]
[ALST  xxxx        xxxx          xxxx          xxxx          xxxx] {EOM|COMPL}
      .             .             .             .
      .             .             .             .
      .             .             .             .
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY[ STATE] SCDG mmm {RT|DL} hhhh MD g[g]\
[ {sss|NDL|RTF}] e LN MSG:
      [DGA uvjaa]   [DGB uvkbb]   [DGC uvlcc]   [DGD uvmd]   [DGP uvjpp]
[PLSW  xxxx        xxxx          xxxx          xxxx          ----]
[LLB   xxxx        xxxx          xxxx          xxxx          xxxx]
[ALST  xxxx        xxxx          xxxx          xxxx          xxxx] {EOM|COMPL}
```

## Denial Message

### Nonhierarchical

[O.52321.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY[ STATE] SCDG NPC [s]abc[ {RT|DL} hhhh] \
[ UNIT [q]q] COND cc DNY
```

[O.52321.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY[ STATE] SCDG {RT|DL} ffff[ UNIT [q]q] \
COND cc DNY
```

[O.52321.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY[ STATE] SCDG ALL {RT|DL} hhhh UNIT [q]q \
COND cc DNY
```



## Hierarchical

[O.52321.01]

M hh:mm:ss xy,ww n[vv] UTL QRY[ STATE] SCDG NPC uvmp[ {RT|DL hhhh}\  
[ UNIT [q]q] COND cc DNY

[O.52321.01]

M hh:mm:ss xy,ww n[vv] UTL QRY[ STATE] SCDG {RT|DL} hhhh[ UNIT [q]q] \  
COND cc DNY

[O.52321.01]

M hh:mm:ss xy,ww n[vv] UTL QRY[ STATE] SCDG ALL {RT|DL} hhhh UNIT [q]q \  
COND cc DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**SCDG** - SLC® carrier digroup

**STATE** - State

Status of protection switching, line loopback, and alarms

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical DS-type NPC number belonging to  
FTU (Unit type FT)  
The valid values are listed below:

If NPC numbers are expressed in three digits, the valid values are:

DS type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DS type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

**uvmnp** - Hierarchical DS-type NPC number

uv - Unit number  
m - Module number  
np - NPC number

Valid values are listed below:

DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|                      |                      |                     |
|----------------------|----------------------|---------------------|
| Unit<br><b>01-16</b> | Module<br><b>1-4</b> | NPC<br><b>01-40</b> |
|----------------------|----------------------|---------------------|

**RT** - Remote terminal

**DL** - Digital carrier line unit (DCLU)

**ffff** - Bank identification number (0000 through 9999)

**ALL** - All  
All SLC carrier RTs or DLs on this frame

**e** - Number of lines in output message

**gggg, hhhh**  
- Bank identification number used in the output message when the NPC number or ALL option was specified in the input message. These bank identification numbers have the same values as ffff.

**MD** - Mode

**g[g]** - Mode of operation  
Mode of operation for the RT/DL SLC carrier bank

| <i>g[g]</i> | <i>Explanation</i> |
|-------------|--------------------|
|-------------|--------------------|

|   |                           |
|---|---------------------------|
| 1 | SLC carrier 96 Mode I     |
| 3 | SLC carrier 96 Mode III   |
| C | SLC carrier, Series 5 FPC |

**llll** - Total number of SLC carrier and DCLU digroups terminated on this frame

**mmm** - Total number of digroups terminated for this bank

**sss** - PWR/MISC alarm option

| <i>sss</i> | <i>Explanation</i> |
|------------|--------------------|
|------------|--------------------|

|     |                                                                |
|-----|----------------------------------------------------------------|
| PMJ | The PWR/MISC alarm from the data link is a power major alarm   |
| PMN | The PWR/MISC alarm from the data link is a power minor alarm   |
| MMJ | The PWR/MISC alarm from the data link is a miscellaneous major |
| MMN | The PWR/MISC alarm from the data link is a miscellaneous minor |

**RTF** - Retrofit

**DGA** - Digroup A of a SLC carrier bank

**DGB** - Digroup B of a SLC carrier bank

**DGC** - Digroup C of a SLC carrier bank

**DGD** - Digroup D of a SLC carrier bank

**DGP** - Digroup P of a SLC carrier bank

**[t]aaa** - The 3- or 4-digit Nonhierarchical DGA NPC number  
**[t]bbb** - The 3- or 4-digit Nonhierarchical DGB NPC number  
**[t]ccc** - The 3- or 4-digit Nonhierarchical DGC NPC number  
**[t]ddd** - The 3- or 4-digit Nonhierarchical DGD NPC number  
**[t]ppp** - The 3- or 4-digit Nonhierarchical DGP NPC number

**uvjaa,wxjaa**  
- Hierarchical DGA NPC number

**uvkbb,wxkbb**  
- Hierarchical DGB NPC number

**uvlcc,wxlcc**  
- Hierarchical DGC NPC number

**uvmdd,wxmdd**  
- Hierarchical DGD NPC number

**uvjpp,wxjpp**  
- Hierarchical DGP NPC number

**uv,wx** - Unit number

**j,k,l,m**

- Module number (j=k=l=m for SLC carrier Series 5 FPC RT)

**aa** - NPC number

**bb** - NPC number

**cc** - NPC number

**dd** - NPC number

**pp** - NPC number

**NDL** - No data link

**PLSW** - Protection line switch (status)

xxxx Explanation

SWMR Manually requested PLSW is performing

SWPR Manually requested PLSW is pending

SWAR Automatically requested PLSW is performing

INHB Protection line switch for the digroup is inhibited

NORM Protection line switch status is normal

**LLB** - Line loopback (status)

xxxx Explanation

FRTA LLB request from RT is active  
FRTI LLB request from RT is inhibited  
TRTA LLB request to RT is active  
TRTI LLB request to RT is inhibited  
LBPR LLB request to RT is pending  
INHB LLB request from and to RT is inhibited  
NORM The LLB is not active nor inhibited

**ALST** - Alarm status

xxxx Explanation

MNNE Minor alarm, location near end  
MJNE Major alarm, location near end  
MNFE Minor alarm, location far end  
MJFE Major alarm, location far end  
MNCL Minor alarm, location carrier line  
MJCL Major alarm, location carrier line  
---- No alarm is active

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**cc** - Hexadecimal condition code

**cc** *Explanation*

**10** Unit is not equipped  
**11** UC is out of service  
**12** UC is in service but failed  
**13** FTMI is not equipped  
**15** NPC is unequipped  
**0B** Invalid CEPT NPC  
**6A** NPC type is not DS type  
**7E** Bank id number not found  
**7F** NPC is not added

## **UTL, QRY, STATE, SYNC**

---

### **UTILITY QUERY**

#### **Explanation Of Command**

---

This message requests the state of the synchronizer.

#### **Command**

---

[I.56301]

UTL:FRM xy,SEQ ww:QRY,STATE,SYNC!

#### **Completion Message**

---

[O.56301]

M hh:mm:ss xy,ww n UTL QRY STATE SYNC 4 LN MSG:  
CFR <arch> STRATUM <stratum> MODE <pllop0>,<pllop1> \  
SOURCE <source0>,<source1>  
IN SERVICE DPLL a b TB c d SOURCE e f  
ACTIVE LINK gh ij PLL TIMING ERROR k l COMPL

#### **Denial Message**

---

[O.56301.01]

M hh:mm:ss xy,ww n UTL QRY STATE SYNC COND cc DNY

#### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

---

**SYNC** - Synchronizer

**CFR** - Configure

**arch** - {MASTER | SLAVED}

**STRATUM**

- Stratum

**stratum**

- {STR2 | STR3 | CEPT TOLL | CEPT LOCAL}

**MODE** - Mode

**pllop0** - {HOLDOVER | FAST | NORMAL} for side 0

**pllop1** - {HOLDOVER | FAST | NORMAL} for side 1

**SOURCE** - Source

**source0**

- {HOLDOVER | TLI | MATE | CRO} for side 0

**source1**

- {HOLDOVER | TLI | MATE | CRO} for side 1

**DPLL** - Digital phase-locked loop

**a** - Digital Phase-Locked Loop, side 0

**b** - Digital Phase-Locked Loop, side 1

**a**

**b** *Explanation*

0 Out of service

1 In service

**TB** - Time base

**c** - Time Base, side 0

**d** - Time Base, side 1

**c**

**d** *Explanation*

0 Out of service

1 In service

**SOURCE** - Timing source

**e** - Timing Source status, side 0

**f** - Timing Source status, side 1

**e**

**f** *Explanation*

0 No SSP on side 1 is in service

1 At least one SSP on side 1 is in service

**gh,**

**ij** - Active SSP number

These variables will be output as "--" if no active SSP is present for  
SYNC 0 and SYNC 1, respectively

**g, i** - Timing link interface number of active SSP

**h, j** - Synchronizer synchronization port (SSP) number

**PLL** - Phase locked loop

**k** - Phase-locked loop timing error, side 0

**l** - Phase-locked loop timing error, side 1

**k**

**l** *Explanation*

0 No errors

1 PLL error exists

**cc** - Hexadecimal condition code

**cc** *Explanation*

**16** SYNC TB is not equipped



## **UTL,QRY,STATE,UNIT,DS3**

### **QUERY STATE UNIT DS3**

#### **Explanation Of Command**

This message requests the alarm status, facility parameter threshold, enabled/disabled status of alarm generation for unprotected DS3 due to manual commands, and protection switching status of a DS3 facility or a range of DS3 facilities within a DS3 unit.

Either a completion or denial output message is generated for each DS3 facility.

#### **Command**

[I.56361]

UTL:FRM xy,SEQ ww:QRY,STATE,UNIT [q]q,DS3 c[-d]!

#### **Completion Message**

[O.56361]

M hh:mm:ss xy,ww n[vv] UTL QRY STATE UNIT [q]q DS3 c TYPE mnxyz 4 LN MSG:  
PSTATE OOS FAIL PEST OOF LOS HBER AIS IDLE BERM BERT LBO  
aaaaa-ccc z b p d e f y i m t <l>  
DU o DS3UNPROTALM aaa[ COND cc] COMPL

#### **Denial Message**

[O.56361.01]

M hh:mm:ss xy,ww n[vv] UTL QRY STATE UNIT [q]q DS3 c UEQD DNY

#### **Autonomous Message**

Not applicable.

## Explanation Of Parameters

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**DS3** - DS3 facility

**c, d** - The number of the DS3 facility within the unit (1 through 6)

**mnxyz** - The DS3 format processed by the MXR:

**mn**      *Explanation*

**MX**      the original R4.0 DS3 facility type supported by the Multiplexer (MXR) circuit pack

**EX**      the enhanced R6.0 DS3 facility type supported by the Enhanced Multiplexer (EMXR) circuit pack

Default is the MX type for backward compatibility.

MX/EX-type xyz fields

**x**      - the DS3 framing format

**x**      *Explanation*

**1**      M13 format (default)

**2**      C-bit parity format

**y**      - not assigned (the only valid value is 0)

**z**      - not assigned (the only valid value is 0)

**PSTATE**      - Protection state

**aaaaa** - Protection state of the service MMFG where aaaaa can be:

**SALW**      The Service MMFG is selected to carry service, and protection switching is ALLOWED

**SINH**      The Service MMFG is selected to carry service, and protection switching is INHIBITED

**MPALW**      The facility is being served by the Protection pack as a result of a manual switch command, and automatic switchback is ALLOWED

**APALW**      the facility is being served by the Protection pack as a result of an automatic switch, and automatic switchback is ALLOWED

**MPINH**      The facility is being served by the Protection pack as a result of a manual switch command, and automatic switchback is INHIBITED

**APINH**      The facility is being served by the Protection pack as a result of an automatic switch, and automatic switchback is INHIBITED

**ccc** - Availability of protection switch in case of failure:

AVL = Protection Switch available

NVL = Protection Switch not available (if the aaaaa field is SINH, MPINH or APINH, this field will always be NVL)

**OOS** - Out-of-service

**z** - "Selected" MMFG in service status:

**1** - the MMFG is in service

**0** - the MMFG is out-of-service

**FAIL** - Failed

**b** - "Selected" MMFG failure status:

**1** - the MMFG is failing

**0** - the MMFG is not failing

**PEST** - Pested

**p** - "Selected" MMFG pest status:

**1** - the MMFG is pested

**0** - the MMFG is not pested

If this field is 1, the OOF, LOS, High BER and AIS field will be filled with a hyphen (-)

**OOF** - Out of frame

**d** - Out-of-frame status for the facility:

**1** - Out-of-Frame alarm for the facility is active

**0** - Out-of-Frame alarm for the facility is idle

- - The facility is pested or OOS, or UC OOS or failed.

**LOS** - Loss of signal

**e** - Loss-of-signal status for the facility:

**1** - Loss-of-signal alarm for the facility is active

**0** - Loss-of-signal alarm for the facility is idle

- - The facility is pested or OOS, or UC OOS or failed.

**HBER** - High bit error rate

**f** - High-bit-error-rate status for the facility:

**1** - High-bit-error-rate alarm for the facility is active

**0** - High-bit-error-rate alarm for the facility is idle

- - The facility is pested or OOS, or UC OOS or failed.

**AIS** - Alarm indication signal

**y** - Alarm indication signal status for the facility:  
    **1** - Alarm indication signal alarm for the facility is active  
    **0** - Alarm indication signal alarm for the facility is idle  
    - - The facility is pested or OOS, or UC OOS or failed.

**IDLE** - Idle signal

**i** - Idle signal status for the facility:  
    **1** - Idle signal alarm for the facility is active  
    **0** - Idle signal alarm for the facility is idle  
    - - The facility is pested or OOS, or UC OOS or failed.

**BERM** - Bit error rate method

**m** - The BER calculation method  
    **B** = Bipolar violations  
    **P** = DS3 Parity Errors

**BERT** - Bit error rate threshold

**t** - The BER threshold:  
    **3** - Corresponding to threshold of 1E-3  
    **6** - Corresponding to threshold of 1E-6

**LBO** - Line buildout

**<|>** - The LBO setting:  
    **ON** - The line buildout is turned on.  
    **OFF** - The line buildout is turned off.

**a** - The number of the DS3 within the range of c and d

**DU** DS3 Unprotected Alarm

**o** Status of alarm indicating unprotected DS3 due to manual commands  
    **0** - No alarm  
    **1** - Alarm is active to indicate unprotected DS3 service

**DS3UNPROTALM** Unprotected Alarm

The enabling/disabling setting to generate an alarm for unprotected DS3 service due to manual commands.

**aaa** The setting to generate alarm for unprotected DS3 service  
    **ON** - Alarm generation is enabled.  
    **OFF** - Alarm generation is disabled.

**cc** - Hexadecimal condition code

**cc Explanation**

|           |                                    |
|-----------|------------------------------------|
| <b>00</b> | <b>No conditions</b>               |
| <b>11</b> | <b>UC is out of service</b>        |
| <b>12</b> | <b>UC is in service but failed</b> |
| <b>B2</b> | <b>MXR is out of service</b>       |

## **UTL, QRY, STR, LINK**

---

### **QUERY LINK STATUS AND PROTOCOL**

#### **Explanation Of Command**

---

This message queries the status and protocol parameters of an administrative link, including all virtual circuits of a X.25 link.

#### **Command**

---

[I.55113]

**UTL:FRM xy,SEQ ww:QRY,STR,LINK j[mm][-jnn]!**

#### **Completion Message**

---

[O.55113]

**M hh:mm:ss xy,ww n[vv] UTL QRY STR LINK j PTCOL S 2 LN MSG:  
STATUS bb e k q x m s hh COMPL**

**Note:** The above message applies to the Snider protocol.

[O.55113]

**M hh:mm:ss xy,ww n[vv] UTL QRY STR LINK j PTCOL X 4 LN MSG:  
STATUS bb - k - - m xxxx hh  
LNKL b eee ggg aa {A|B}  
PKTL iii nn v ppss gghh COMPL**

**Note:** The above message applies to the X.25 protocol when virtual circuit is not specified.

[O.55113]

M hh:mm:ss xy,ww n[vv] UTL QRY STR LINK jmm PTCOL X 4 LN MSG:  
STATUS bb - k - - m s hh  
LNKL b eee ggg aa {A|B}  
PKTL c ddd iii jjj kkk lll mmm nn p q r v ppss gghh COMPL

**Note:** The above message applies to the X.25 protocol when a single virtual circuit is specified.

[O.55113]

M hh:mm:ss xy,ww n[vv] UTL QRY STR LINK jmm PTCOL X 4 LN MSG:  
STATUS bb - k - - m s hh  
LNKL b eee ggg aa {A|B}  
PKTL c ddd iii jjj kkk lll mmm nn p q r v ppss gghh {EOM|COMPL}

.  
.  
.

M hh:mm:ss xy,ww n[vv] UTL QRY STR LINK jnn PTCOL X 4 LN MSG:  
STATUS bb - k - - m s hh  
LNKL b eee ggg aa {A|B}  
PKTL c ddd iii jjj kkk lll mmm nn p q r v ppss gghh COMPL

**Note:** The above message applies to the X.25 protocol when a range of virtual circuits is specified.

[O.55113]

M hh:mm:ss xy,ww n[vv] UTL QRY STR LINK j PTCOL M 2 LN MSG:  
STATUS bb - k - - m s hh COMPL

**Note:** The above message applies to the Modified Snider protocol.

[O.55113]

M hh:mm:ss xy,ww n[vv] UTL QRY STR LINK j PTCOL T e LN MSG:  
STATUS bb - k - - m s hh [COMPL]  
[APPL {ASCS|ASCD} aa ttt [COMPL]]  
[APPL PM aa ttt [COMPL]]

**Note:** The above message applies to the TABS protocol.

### **Denial Message**

[O.55113.01]

M hh:mm:ss xy,ww n[vv] UTL QRY STR LINK j[mm][-jnn] COND cc DNY

## **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

---

**STR** - Status register

**LINK** - Link

**j [mm]** - Administrative link number

**j nn** - Administrative link number

**j** - Physical link number (1 through 6)

**mm** - First virtual circuit (VC) number of the VC range mm-nn  
(01 through 16, j must be 5 or 6)

**nn** - Last virtual circuit (VC) number of the VC range mm-nn  
(01 through 16, j must be 5 or 6)

**PTCOL** - Protocol

**S** - Snider

**X** - X.25

**M** - Modified Snider

**T** - TABS

**e** - Number of lines in the message (2, 3, or 4)

**STATUS**- Status

**bb** - Baud rate. For the physical link j alarm class.

**bb** *Baud rate*

03 300 b/s

06 600 b/s

12 1200 b/s (default for CIU link)

24 2400 b/s

48 4800 b/s

96 9600 b/s

00 X.25 links

**Note:** X.25 links are set up to receive external timing only.

**e** - Backspace character echo

**e** *Explanation*

0 Backspace is echoed (default)

1 Backspace is not echoed



**k** - Failure of the X.25 link

**k** *Explanation*

1 Minor alarm (default)

2 Major alarm

**q** - ENQ/ACK Protocol Enable/Disable Control

**q** *ENQ/ACK Protocol State*

0 Disabled

1 Enabled (default)

**x** - XON/XOFF Protocol Enable/Disable Control

**x** *XON/XOFF Protocol State*

0 Disabled (default)

1 Enabled

**m** - Mode

**m** *Status*

0 Idle

1 Input message in progress

2 Output message in progress

**s** - Status

This status applies to the following protocols:

Snider

Modified Snider

X.25 (Single or Range of Virtual Circuits)

TABS

**s** *Explanation*

0 In service

1 Out-of-service (OOS)

**xxxx** - Virtual circuit (VC) status (hexadecimal). Range 0000 through FFFF.

This status applies to the X.25 protocol. A four-digit hexadecimal number will be output in the protocol field whenever a specific VC number is not entered. Each digit represents four bits and each bit is associated with a particular VC. The four hexadecimal digits therefore represent 16 VCs. The bits are assigned to VCs from right to left in increasing order of VC number. That is, bit 1 represents VC 1 and bit 16 represents virtual circuit 16. See below where VC16 marks the position of the bit representing virtual circuit 16 and VC01 similarly marks the position of the bit representing VC 1.

|             |                         |             |                   |
|-------------|-------------------------|-------------|-------------------|
| <b>hex</b>  | <b>binary</b>           |             |                   |
| <b>xxxx</b> | <b>bbbbbbbbbbbbbbbb</b> |             |                   |
|             |                         | ^           | ^                 |
|             |                         | <b>VC16</b> | <b>&lt;--VC01</b> |

The interpretation of the value of a particular bit is given in the explanation of variable *s* above. Some specific examples of the output are interpreted below.

| <b>xxxx</b> | <b>binary expansion</b> | <b>Explanation</b>                      |
|-------------|-------------------------|-----------------------------------------|
| 0000        | 0000000000000000        | All 16 VCs in service                   |
| 0001        | 0000000000000001        | VC 1 OOS, all others in service         |
| 0002        | 0000000000000010        | VC 2 OOS, all others in service         |
| 8004        | 1000000000000100        | VCs 16 and 3 OOS, all others in service |
| FFFF        | 1111111111111111        | All VCs are OOS                         |

**hh** - Hardware status

| <b>hh</b> | <i>Explanation</i>                           |
|-----------|----------------------------------------------|
| 03        | Link hardware in service                     |
| 04        | Link hardware out of service                 |
| 05        | Link hardware pested for autonomous restoral |

- LNKL** - Link Layer
- b** - Maximum number of outstanding I frames (1 through 7). Default is 7
- eee** - Acknowledgment timer (2 through 20 seconds). Default is 3 seconds
- ggg** - Disconnect (or Idle channel) timer (4 through 120 seconds). Default is 26 seconds
- aa** - Maximum number of frame transmissions (2 through 16) (including original transmission). Default is 7
- A** - Data link layer frame address A
- B** - Data link layer frame address B
- PKTL** - Packet layer
- c** - Window size (1 through 7). Default is 2
- ddd** - Packet size P (ddd) can be 128, 256, or 512 octets. Default is 128 octets
- iii** - Restart request response timer (10 through 180 seconds). Default is 180 seconds
- jjj** - Reset request response timer (10 through 180 seconds). Default is 180 seconds
- kkk** - Disconnect (or Idle channel) timer (10 through 180 seconds). Default is 180 seconds
- lll** - Data packet acknowledgement timer (10 through 200 seconds). Default is 200 seconds
- mmm** - Interrupt response timer (10 through 180 seconds). Default is 180 seconds
- nn** - Restart request retransmission counter (1 through 10). Default is 1
- p** - Reset request retransmission counter (1 through 3). Default is 1
- q** - Clear request retransmission counter (1 through 10). Default is 1
- r** - Data packet retransmission counter (0 through 3). Default is 0

**ppss** - Virtual circuit range

**pp** - Range of permanent virtual circuits (PVCs).

**ss** - Range of switched virtual circuits (SVCs).

The sum of the number of PVCs and SVCs must be equal to 16.

Table 1 shows the default values for these fields.

Table 1 and Table 2 show the acceptable values for these fields, allowing for an LCN numbering scheme of 00-255.

TABLE 1

| "pp" | "ss" | Number of PVCs | Number of SVCs | Starting LCN for first PVC Channel | Starting LCN for first SVC Channel |
|------|------|----------------|----------------|------------------------------------|------------------------------------|
| 00   | 16   | 00             | 16             | --                                 | 01                                 |
| 01   | 15   | 01             | 15             | 01                                 | 02                                 |
| 02   | 14   | 02             | 14             | 01                                 | 03                                 |
| 03   | 13   | 03             | 13             | 01                                 | 04                                 |
| 04   | 12   | 04             | 12             | 01                                 | 05                                 |
| 05   | 11   | 05             | 11             | 01                                 | 06                                 |
| 06   | 10   | 06             | 10             | 01                                 | 07                                 |
| 07   | 09   | 07             | 09             | 01                                 | 08                                 |
| 08   | 08   | 08             | 08             | 01                                 | 09                                 |
| 09   | 07   | 09             | 07             | 01                                 | 10                                 |
| 10   | 06   | 10             | 06             | 01                                 | 11                                 |
| 11   | 05   | 11             | 05             | 01                                 | 12                                 |
| 12   | 04   | 12             | 04             | 01                                 | 13                                 |
| 13   | 03   | 13             | 03             | 01                                 | 14                                 |
| 14   | 02   | 14             | 02             | 01                                 | 15                                 |
| 15   | 01   | 15             | 01             | 01                                 | 16                                 |
| 16   | 00   | 16             | 00             | 01                                 | --                                 |

TABLE 2

| "pp"                | "ss" | Number of PVCs | Number of SVCs | Starting LCN for first PVC Channel | Starting LCN for first SVC Channel |
|---------------------|------|----------------|----------------|------------------------------------|------------------------------------|
| $0 \leq nn \leq 48$ |      |                |                |                                    |                                    |
| 20                  | nn   | 00             | 16             | --                                 | nn                                 |
| 21                  | nn   | 01             | 15             | nn                                 | nn+1                               |
| 22                  | nn   | 02             | 14             | nn                                 | nn+2                               |
| 23                  | nn   | 03             | 13             | nn                                 | nn+3                               |
| 24                  | nn   | 04             | 12             | nn                                 | nn+4                               |
| 25                  | nn   | 05             | 11             | nn                                 | nn+5                               |

| "pp"                | "ss" | Number<br>of PVCs | Number<br>of SVCs | Starting LCN for first<br>PVC Channel | Starting LCN for first<br>SVC Channel |
|---------------------|------|-------------------|-------------------|---------------------------------------|---------------------------------------|
| $0 \leq nn \leq 48$ |      |                   |                   |                                       |                                       |
| 26                  | nn   | 06                | 10                | nn                                    | nn+6                                  |
| 27                  | nn   | 07                | 09                | nn                                    | nn+7                                  |
| 28                  | nn   | 08                | 08                | nn                                    | nn+8                                  |
| 29                  | nn   | 09                | 07                | nn                                    | nn+9                                  |
| 30                  | nn   | 10                | 06                | nn                                    | nn+10                                 |
| 31                  | nn   | 11                | 05                | nn                                    | nn+11                                 |
| 32                  | nn   | 12                | 04                | nn                                    | nn+12                                 |
| 33                  | nn   | 13                | 03                | nn                                    | nn+13                                 |
| 34                  | nn   | 14                | 02                | nn                                    | nn+14                                 |
| 35                  | nn   | 15                | 01                | nn                                    | nn+15                                 |
| 36                  | nn   | 16                | 00                | nn                                    | --                                    |
| 40                  | nn   | 00                | 16                | --                                    | nn+64                                 |
| 41                  | nn   | 01                | 15                | nn+64                                 | nn+65                                 |
| 42                  | nn   | 02                | 14                | nn+64                                 | nn+66                                 |
| 43                  | nn   | 03                | 13                | nn+64                                 | nn+67                                 |
| 44                  | nn   | 04                | 12                | nn+64                                 | nn+68                                 |
| 45                  | nn   | 05                | 11                | nn+64                                 | nn+69                                 |
| 46                  | nn   | 06                | 10                | nn+64                                 | nn+70                                 |
| 47                  | nn   | 07                | 09                | nn+64                                 | nn+71                                 |
| 48                  | nn   | 08                | 08                | nn+64                                 | nn+72                                 |
| 49                  | nn   | 09                | 07                | nn+64                                 | nn+73                                 |
| 50                  | nn   | 10                | 06                | nn+64                                 | nn+74                                 |
| 51                  | nn   | 11                | 05                | nn+64                                 | nn+75                                 |
| 52                  | nn   | 12                | 04                | nn+64                                 | nn+76                                 |
| 53                  | nn   | 13                | 03                | nn+64                                 | nn+77                                 |
| 54                  | nn   | 14                | 02                | nn+64                                 | nn+78                                 |
| 55                  | nn   | 15                | 01                | nn+64                                 | nn+79                                 |
| 56                  | nn   | 16                | 00                | nn+64                                 | --                                    |
| 60                  | nn   | 00                | 16                | --                                    | nn+128                                |
| 61                  | nn   | 01                | 15                | nn+128                                | nn+129                                |
| 62                  | nn   | 02                | 14                | nn+128                                | nn+130                                |
| 63                  | nn   | 03                | 13                | nn+128                                | nn+131                                |
| 64                  | nn   | 04                | 12                | nn+128                                | nn+132                                |
| 65                  | nn   | 05                | 11                | nn+128                                | nn+133                                |
| 66                  | nn   | 06                | 10                | nn+128                                | nn+134                                |
| 67                  | nn   | 07                | 09                | nn+128                                | nn+135                                |
| 68                  | nn   | 08                | 08                | nn+128                                | nn+136                                |
| 69                  | nn   | 09                | 07                | nn+128                                | nn+137                                |
| 70                  | nn   | 10                | 06                | nn+128                                | nn+138                                |
| 71                  | nn   | 11                | 05                | nn+128                                | nn+139                                |
| 72                  | nn   | 12                | 04                | nn+128                                | nn+140                                |
| 73                  | nn   | 13                | 03                | nn+128                                | nn+141                                |
| 74                  | nn   | 14                | 02                | nn+128                                | nn+142                                |
| 75                  | nn   | 15                | 01                | nn+128                                | nn+143                                |

| "pp"                | "ss" | Number<br>of PVCs | Number<br>of SVCs | Starting LCN for first<br>PVC Channel | Starting LCN for first<br>SVC Channel |
|---------------------|------|-------------------|-------------------|---------------------------------------|---------------------------------------|
| $0 \leq nn \leq 48$ |      |                   |                   |                                       |                                       |
| 76                  | nn   | 16                | 00                | nn+128                                | --                                    |
| 80                  | nn   | 00                | 16                | --                                    | nn+192                                |
| 81                  | nn   | 01                | 15                | nn+192                                | nn+193                                |
| 82                  | nn   | 02                | 14                | nn+192                                | nn+194                                |
| 83                  | nn   | 03                | 13                | nn+192                                | nn+195                                |
| 84                  | nn   | 04                | 12                | nn+192                                | nn+196                                |
| 85                  | nn   | 05                | 11                | nn+192                                | nn+197                                |
| 86                  | nn   | 06                | 10                | nn+192                                | nn+198                                |
| 87                  | nn   | 07                | 09                | nn+192                                | nn+199                                |
| 88                  | nn   | 08                | 08                | nn+192                                | nn+200                                |
| 89                  | nn   | 09                | 07                | nn+192                                | nn+201                                |
| 90                  | nn   | 10                | 06                | nn+192                                | nn+202                                |
| 91                  | nn   | 11                | 05                | nn+192                                | nn+203                                |
| 92                  | nn   | 12                | 04                | nn+192                                | nn+204                                |
| 93                  | nn   | 13                | 03                | nn+192                                | nn+205                                |
| 94                  | nn   | 14                | 02                | nn+192                                | nn+206                                |
| 95                  | nn   | 15                | 01                | nn+192                                | nn+207                                |
| 96                  | nn   | 16                | 00                | nn+192                                | --                                    |

**gghh** - Virtual circuit group number

**gg** - Group number of all PVCs

**hh** - Group number for all SVCs (00 through 15)

**APPL** - Application layer

**ASCS** - Alarm surveillance and control, summary

**ASCD** - Alarm surveillance and control, detailed

**PM** - Performance monitoring

**aa** - Layer 2 address

**ttt** - Polling time

**DBIT** - D-bit

**v** - X.25 d-bit setting

**v**      *Explanation*

0    Off (unset) (acknowledgement done from local DTE). Default

1    On (set) (acknowledgement done from remote DTE)

DBIT is valid only on a per link basis and will be denied on an individual virtual circuit.

**COND** - Condition

**cc** - Hexadecimal condition code

**cc**      *Explanation*

**E1**    Virtual circuit is not specified for X.25 link

**E2**    Invalid link number specified

## **UTL,QRY,STR,SYNC**

---

### **UTILITY QUERY, SYNCHRONIZER**

#### **Explanation Of Command**

---

This message requests a printout on the 12-byte status register and configuration of a synchronizer.

#### **Command**

---

[I.55201]

UTL:FRM xy,SEQ ww:QRY,STR,SYNC a!

#### **Completion Message**

---

[O.55201]

M hh;mm;ss xy,ww n[vv] UTL QRY STR SYNC a 3 LN MSG:  
<byte01> <byte02> <byte03> <byte04> <byte05> <byte06>  
<byte07> <byte08> <byte09> <byte10> <byte11> <byte12> COMPL

#### **Denial Message**

---

[O.55201.01]

M hh;mm;ss xy,ww n[vv] UTL QRY STR SYNC a COND cc DNY

#### **Autonomous Message**

---

Not applicable.



## Explanation Of Parameters

---

**STR** - Status register

**SYNC** - Synchronizer

**a** - Synchronizer number (0 or 1)

**byte01,**

...,

**byte12**- Status register data bytes

Each data byte contains eight bits. These bits are labeled, in the order they appear in the output, as abcdefgh. These bits are set for the following conditions:

byte01

- a** - Unused by craft
- b** - Sync core hardware fault
- c** - Mate sync is bad or declared out of service
- d** - Time base is bad or missing
- e** - TLI 1 in service without errors
- f** - TLI 2 in service without errors
- g** - TLI 3 in service without errors
- h** - TLI 4 in service without errors

byte02

- a** - Timing Extractor Timing link 1 is in service and good
- b** - Timing Extractor Timing link 2 is in service and good
- c** - Timing Extractor Timing link 3 is in service and good
- d** - Timing Extractor Timing link 4 is in service and good
- e** - Timing Extractor Timing link 5 is in service and good
- f** - Timing Extractor Timing link 6 is in service and good
- g** - Timing Extractor Timing link 7 is in service and good
- h** - Timing Extractor Timing link 8 is in service and good

byte03

- a** - Sync has been reset and awaits configuration
- b** - Hardware error on DPLL pack. See byte06 and byte07
- c** - Time base has an error, see byte09
- d** - PLL symmetry error, see byte08
- e** - Problem with cross-couple timing. See byte10 and byte11
- f** - Problem with CRO timing. See byte12
- g** - Unused bit
- h** - Unused bit

**byte04** - Sync configuration data

**ab** - Sync architecture:

*ab Explanation*

- 00 Sync is slave in master-slave system
- 01 Sync is master in master-slave system

**cde** - Operational stratum

*cde Explanation*

- 000 Domestic stratum 3
- 001 CEPT local exchange
- 010 CEPT toll exchange
- 011 Domestic stratum 2

**fg** - PLL locking mode

*fg Explanation*

- 00 Normal
- 01 Fast
- 10 Holdover

**h** - Unused by craft

**byte05** - Sync configuration data

**ab** - Source of timing to which Sync is presently locking

*ab Explanation*

- 00 Holdover (Not locking)
- 01 Timing link(s)
- 10 Cross couple
- 11 CRO (Clock Reference Oscillator)

**cde** - Active Link: Which timing link the Sync is locking to (This field is meaningful only if byte04 ab = 00 and byte05 ab = 01)

*cde Explanation*

- 000 TLI 1, Link 0
- 001 TLI 1, Link 1
- 010 TLI 2, Link 0
- 011 TLI 2, Link 1
- 100 TLI 3, Link 0
- 101 TLI 3, Link 1
- 110 TLI 4, Link 0
- 111 TLI 4, Link 1

**f** - Unused by craft

**g** - Unused by craft

**h** - Unused by craft

**byte06**- DPLL Hardware status. If any bit equals 1, a DPLL hardware failure is indicated

- a** - ROM error
- b** - RAM error
- c** - Phase/Frequency latch error
- d** - Loss of energy on 2.048 MHz output of frequency synthesizer
- e** - Loss of energy on 2.048 MHz output of phase shifter
- f** - Loss of energy on generated sync pulse
- g** - Loss of energy on time base strobe signal
- h** - Unused by craft

**byte07**- DPLL Hardware status. If any bit equals 1, a DPLL hardware failure is indicated

- a** - Interrupt controller error
- b** - Interrupt holding register error
- c** - UART error
- d** - Control data readable output latch error
- e-h** - Unused bits

**byte08**- PLL status

- a** - PLL end of range indicator
- b** - PLL excessive range error
- c** - PLL real time violation
- d** - Fast start timeout
- e-h** - Unused bits

**byte09**- Time base status

- a** - Loss of energy for time base signal
- b** - Time base I/O error
- c** - Time base oscillator has drifted beyond its specified accuracy limit. (This condition is monitored only when the sync is the master timing source)
- d** - Time base oven is cold. It must warm up for accurate holdover
- e** - Unused bit
- fgh** - Stratum of oscillator:

*fgh Explanation*

- 000 TBS3, Domestic stratum 3
- 001 TBCL, CEPT local exchange
- 010 TBCT, CEPT toll exchange
- 011 TBS2, Domestic stratum 2

**byte10**- Cross Couple Status

- a** - Mate sync declared out-of-service by MC
- b** - Mate sync hardware error
- c** - Loss of energy on the 1 ms cross couple interrupt flag
- d** - Loss of energy on the 30 ms cross couple interrupt flag
- e** - Cross couple fast lock not working
- f** - Sync's time base drifting with respect to CRO in master mode
- g** - Cross couple timing problem
- h** - Cross couple timing problem - mate sync's timing suspected

**byte11**- Cross couple status

- a** - Sync clocks not aligned, cross couple network may alarm
- b-h** - Unused bits

**byte12**- CRO status

The following bits are important only when the sync is a master timing source:

- a** - Timing from CRO bad or declared out of service by MC
- b** - CRO declared out of service by the MC
- c** - Loss of energy on the CRO input signal flag
- d** - In master mode, CRO drifting with respect to sync time bases
- e-h** - Unused bits

**cc** - Hexadecimal condition code

**cc**    *Explanation*

- 02**    Subject entity is not equipped
- 04**    Subject entity is out of service
- 05**    Subject entity is pested
- 16**    SYNC TB is not equipped
- 17**    SYNC is out of service
- C8**    Sync pack denied command

## **UTL,QRY,STR,SYNC,TLI**

### **UTILITY QUERY, TIMING LINK INTERFACE**

#### **Explanation Of Command**

This message requests a printout of the 3-byte status register of a timing link interface (TLI) for a specific synchronizer.

#### **Command**

[I.55311]

UTL:FRM xy,SEQ ww:QRY,STR,SYNC a,TLI m!

#### **Completion Message**

[O.55311]

M hh:mm:ss xy,ww n[vv] UTL QRY STR SYNC a TLI m <byte01> \  
<byte02> <byte03> COMPL

#### **Denial Message**

[O.55311.01]

M hh:mm:ss xy,ww n[vv] UTL QRY STR SYNC a TLI m COND cc DNY

#### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**STR** - Status register

**SYNC** - Synchronizer

**a** - Synchronizer number (0 or 1)

**TLI** - Timing link interface

**m** - Timing link interface number (1 through 4)

**byte01,**

...,

**byte03**- Status register data bytes

Each data byte contains eight bits: abcdefgh. These bits are set for the following conditions:

**byte01**- Overall TLI type and configuration

abcd TLI type

0000 TXB1, 1.544 Mb/s DS1 Extractor

0001 TXB2, 2.048 Mb/s Primary Block (120 OHM) Extractor

0010 TXCC, Composite Clock Extractor

0011 TXUC, High Level Unipolar Clock Extractor

0100 TXRF, Basic System Reference Frequency and  
CEPT 2.048 MHz Sine (75 OHM) Extractor

0101 TDCC, 64 kb/s Composite Clock Distributor

0110 TDS2, 2.048 MHz Sine Distributor

0111 TXCP, CEPT 2.048 MHz Sine (120 Ohm) Extractor

**e** - TLI is grown

**f** - TLI out-of-service

**g** - TLI hardware error

**h** - Unused bit

**byte02**- TLI phase detector and timing monitor circuitry status

- a** - Hardware energy detector on the time base strobe signal has failed
- b** - Loss of timebase strobe signal coming from the DPLL
- c** - Hardware energy detector on the CRO signal has failed
- d** - Loss of reference clock signal coming from the CRO

**Note:** Bits c and d have meaning only for TDCC and TDS2 TLIs and when the SYNC is a master timing source.

For TXB1 or TXB2 TLIs:

- e** - Framer chip on side 0 has failed
- f** - Framer chip on side 1 has failed

For TXCC TLIs:

- e** - Out-of-lock detector on side 0 has failed
- f** - Out-of-lock detector on side 1 has failed

**Note:** Bits e and f have meaning only for TE TLIs

**byte03**- Hardware status and diagnostic results for Timing Distributor (TD) type TLI only

**cc** - Hexadecimal condition code

**cc**    *Explanation*

- 05**    Subject entity is pested
- 16**    SYNC TB is not equipped
- 17**    SYNC is out of service
- A5**    (Timing Distributor) TLI is not equipped
- C8**    Sync pack denied command



## **UTL,QRY,STR,SYNC,TLI,SSP**

### **UTILITY QUERY SSP**

#### **Explanation Of Command**

This message requests a printout of the 5-byte status register for a select synchronizer port (SSP). The port is located on a timing link interface (TLI) circuit pack of a synchronizer.

#### **Command**

[I.55321]

UTL:FRM xy,SEQ ww:QRY,STR,SYNC a,TLI m,SSP b!

#### **Completion Message**

##### **Nonhierarchical**

[O.55321]

M hh:mm:ss xy,ww n[vv] UTL QRY STR SYNC a TLI m SSP b \  
[NPC abc] 2 LN MSG:  
<byte1> <byte2> <byte3> <byte4> <byte5> COMPL

##### **Hierarchical**

[O.55321]

M hh:mm:ss xy,ww n[vv] UTL QRY STR SYNC a TLI m SSP b \  
[NPC uvmnp] 2 LN MSG  
<byte1> <byte2> <byte3> <byte4> <byte5> COMPL

### **Denial Message**

---

[O.55321.01]

M hh:mm:ss xy,ww n[vv] UTL QRY STR SYNC a TLI m SSP b \\  
COND cc DNY

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**STR** - Status register

**SYNC** - Synchronizer

**a** - Synchronizer number (0 or 1)

**TLI** - Timing link interface

**m** - Timing link interface number (1 through 4)

**SSP** - Synchronization Sync Port

**b** - Synchronization Sync Port number (0 or 1)

**NPC** - Network processing circuit

**abc** - Nonhierarchical NPC number

**uvmnp** - Hierarchical NPC number

**uv** - Unit number

**m** - Module number

**np** - NPC number within the module

**byte1, ... byte5**

- Status register data bytes

Each data byte contains eight bits: abcdefgh. These bits are set for the following conditions:

- byte1** - Overall status and configuration
- a** - Timing link is grown
  - b** - Timing link out-of-service
  - c** - Timing link out-of-service; Timing signal from the link has serious enough errors that it will not be accepted as a source of reference clock
  - d** - TE TLI hardware problem; link will not be accepted as a source of reference clock
  - e-h** - Undefined
- byte2** - Timing link priority field. This field ranges from a value of 1 (highest) to 8 (lowest) for master/slave synchronization networks and affects the choice of a link as the active timing source.
- byte3** - Characteristics of the timing source
- abc** - Framing format (TXB1 or TXB2 TE TLIs only)
    - For TXB1 TE TLIs:
      - 000 D4
      - 001 ESF
      - 010 DDS
    - For TXB2 TE TLIs:
      - 000 CCS
      - 001 ERSM
      - 010 CAS0
      - 011 CAS1
  - de** - Line format (TXB1 or TXB2 TE TLIs only)
    - For TXB1 TE TLIs:
      - 00 Bipolar
      - 01 B8ZS
    - For TXB2 TE TLIs:
      - 00 AMI
      - 01 HDB3
  - fgh** - Frequency (TXUC TLIs only)
    - 000 512 kHz
    - 001 1.000 MHz
    - 010 1.544 MHz
    - 011 2.048 MHz
    - 100 5.000 MHz

**byte4** - Timing and line error information on the reference signal

- a** - (TXB1, TXB2, or TXCC TE TLIs only) Carrier failure alarm/loss of signal flag
- b** - Timing signal loss of energy
- c** - (TXUC TE TLIs only) Autobaud failure flag: the frequency of the incoming unipolar clock is not one of the possible frequencies specified in <byte3, ghi>
- d** - Not used
- e** - Excessive jitter flag
- f** - Phase step flag
- g-h** - Not used

**byte5** - Timing and line error information on the reference signal (TXB1 and TXB2 only)

- a** - Out of frame flag
- b** - Major framing error rate flag
- c** - Minor framing error rate flag
- d-h** - Not used

**cc** - Hexadecimal condition code

**cc**    *Explanation*

|           |                                          |
|-----------|------------------------------------------|
| <b>05</b> | Subject entity is pested                 |
| <b>16</b> | SYNC TB is not equipped                  |
| <b>17</b> | SYNC is out of service                   |
| <b>A2</b> | SSP number is illegal                    |
| <b>A5</b> | (Timing Distributor) TLI is not equipped |
| <b>C8</b> | Sync pack denied command                 |

## **UTL, QRY, STR, XC**

---

### **UTILITY QUERY, STATUS REGISTER**

#### **Explanation Of Command**

---

This message requests a printout of a status register for side 0 or side 1 of a cross-connect network.

#### **Command**

---

[I.55191]

UTL:FRM xy,SEQ ww:QRY,STR,XC a!

#### **Completion Message**

---

[O.55191]

M hh:mm:ss xy,ww n[vv] UTL QRY STR XC a pq rs COMPL

#### **Denial Message**

---

[O.55191.01]

M hh:mm:ss xy,ww n[vv] UTL QRY STR XC a DNY

#### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

- STR** - Status register
- XC** - Cross-connect network
- a** - Cross-connect network side (0 through 1).
- pq** - Cross connect status register byte 1 (hexadecimal, all bits = 0)
- rs** - Cross connect status register byte 0 (hexadecimal)

*rs Explanation*

- |    |                               |
|----|-------------------------------|
| 01 | In service                    |
| 05 | Active, in service            |
| 08 | Pested                        |
| 09 | Pested and in service         |
| 0A | Pested and Failed             |
| 0D | Pested, active and in service |

---

## UTL,QRY,SYNC,TYPE

---

### UTILITY QUERY, SYNCHRONIZER

#### Explanation Of Command

---

This message is used to request information on the provisioning of the synchronizer unit.

#### Command

---

[I.53001]

UTL:FRM xy,SEQ ww:QRY,SYNC,TYPE!

#### Completion Message

---

[O.53001]

M hh:mm:ss xy,ww n[vv] QRY SYNC TYPE 5 LN MSG:  
TB TYPE mnxyz mnxyz  
TLI TYPE pqxyz rsxyz pqxyz rsxyz pqxyz rsxyz pqxyz rsxyz  
SRC VALUE p p p p p p p p  
SOURCE NPC <xxx> <xxx> <xxx> <xxx> <xxx> <xxx> <xxx> <xxx> COMPL

#### Denial Message

---

Not applicable.

#### Autonomous Message

---

Not applicable.

## **Explanation Of Parameters**

---

**SYNC** - Synchronizer

**TYPE** - Type

Request for provisioning information

**TB** - Time base

**mnxyz** - SYNC time base type

*mnxyz Explanation*

----- Not equipped

TB0yz Domestic Stratum 3

TB3yz Domestic Stratum 2

**TLI** - Timing link interface

**pqxyz** - TLI type provisioned on synchronizer synchronization port (SSP) 0

**rsxyz** - TLI type provisioned on SSP 1

*pqxyz*

*rsxyz Explanation*

----- Not equipped

TCxyz 64 kb/s composite clock timing extractor

TD1yz 64 kb/s composite clock timing distributor

TD2yz Sinusoidal 2.048 MHz timing distributor

TExyz DS1 timing extractor

(xyz should be same as for DExyz NPCs)

TUxyz Unipolar clock timing extractor

TRxyz Basic system reference frequency timing extractor

For CRO applications in MASTER mode, TLI 3 is equipped with a Time Base circuit pack. In this case, "pqxyz" = "mnxyz", showing the Time Base type in the TLI 3 and TLI 4 positions.

**SRC** - Source

**p** - Source for priority for the given TLI/SSP

*p Explanation*

- Not equipped.

1-8 1 is the HIGHEST priority, 8 is the LOWEST priority

**VALUE** - Value

**SOURCE** - Source



**NPC**    - Network processing circuit

**cc**     - Hexadecimal condition code

**cc**    *Explanation*

**00**    No conditions

## **UTL, QRY, TGS**

---

### **UTILITY QUERY TEST-ACCESS GROUP**

#### **Explanation Of Command**

---

This message is used to get a listing of one or a range of Nx64Kbit/s test-access groups (TGs). To retrieve a listing of ALL test-access groups specify the maximum range (1-400).

#### **Command**

---

[I.53081]

UTL:FRM xy,SEQ ww:QRY,TGS mmm[-nnn]!

#### **Completion Message**

---

#### **Nonhierarchical**

---

[O.53081]

M hh:mm:ss xy,ww n[vv] UTL QRY TGS mmm[-nnn] p LN MSG:  
TG mmm, rrr, [s]abceee, sss, [t]defwww, NN, <mode>  
TG mmm, rrr, [s]abceee, sss, [t]defwww, NN, <mode>  
TG mmm, rrr, [s]abceee, sss, [t]defwww, NN, <mode>  
TG nnn, rrr, [s]abceee, sss, [t]defwww, NN, <mode> {EOM|COMPL}

or

M hh:mm:ss xy,ww n[vv] UTL QRY TGS mmm[-kkk] UEQD {EOM|COMPL}

## **Hierarchical**

---

[O.53081]

M hh:mm:ss xy,ww n[vv] UTL QRY TGS mmm[-nnn] p LN MSG:  
TG mmm, rrr, uvmnpjee, sss, wxkqrwww, NN, <mode>  
TG mmm, rrr, uvmnpjee, sss, wxkqrwww, NN, <mode>  
TG mmm, rrr, uvmnpjee, sss, wxkqrwww, NN, <mode>  
TG nnn, rrr, uvmnpjee, sss, wxkqrwww, NN, <mode> {EOM|COMPL}

or

M hh:mm:ss xy,ww n[vv] UTL QRY TGS mmm[-kkk] UEQD {EOM|COMPL}

## **Denial Message**

---

[O.53081.01]

M hh:mm:ss xy,ww n[vv] UTL QRY TGS mmm[-nnn] COND cc DNY

## **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

---

**TG** - Test-access group

**mmm** - Test-access group number (001 through 400)

**nnn** - Test-access group number specifying the end of a TG range (002 through 400)

**NPCTG** - NPC (for) test group

**rrr** - NPCTG number supporting the east bundle (001 through 400)

**sss** - NPCTG number supporting the west bundle, may be same as rrr

**[s]abc**- 3- or 4-digit non-hierarchical NPC number designated as NPCTG rrr

**[t]def**- 3- or 4-digit non-hierarchical NPC number designated as NPCTG sss

If NPC numbers are expressed in three digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |
| <b>16A-16H</b>               | <b>32A-32H</b>               | <b>48A-48H</b>               | <b>64A-64H</b>               | <b>80A-80H</b>               | <b>96A-96H</b>               |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |
| <b>16A-16H</b>               | <b>32A-32H</b>               | <b>48A-48H</b>               | <b>64A-64H</b>               | <b>80A-80H</b>               | <b>96A-96H</b>               |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number designated as NPCTG rrr

**wxkqr** - Hierarchical NPC number designated as NPCTG sss

**uv, wx** - Unit number

**m, k** - Module number

**np, qr** - NPC number within the module

The valid values are listed below:

DE type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**eee** - Starting channel for east bundle

**www** - Starting channel for west bundle

**mode** - Test access mode

*mode Explanation*

|      |         |
|------|---------|
| MON  | Monitor |
| SPL  | Split   |
| HUB  | Hub     |
| LPD  | Looped  |
| IDLE | Idle    |

**UEQD** - Unequipped

**NN** - TG width (01 through 24)

**cc** - Hexadecimal condition code

**cc** *Explanation*

**63** None of the designated TG(s) are equipped



## **UTL, QRY, TO**

---

### **QUERY DESTINATION CROSS-CONNECT**

#### **Explanation Of Command**

---

This command requests circuit provisioning information associated with the specified To-direction termination(s). The output messages generated depend upon:

- Whether or not the termination is assigned,
- Whether or not the termination is a test port termination,
- The type of network processing circuit for this termination,
- The far-end to which the termination is mapped (if any).

For this utility command, DACS II terminations can be divided into two categories:

- Multipoint termination, which is a multipoint circuit on a real digital multipoint bridge (DMB) in the digital signaling processing unit (DSPU), or in virtual network processing circuits.
- All other terminations.

If the network processing circuit (NPC) number specified in the command is the number of a remote terminal (DL) digroup currently under protection by the protection digroup (DGP), the execution of the command will be completed and DGP with its associated NPC number appears on the output message.

For a SLC<sup>®</sup> carrier denial message, the following appears on output: the bank identification number, operation mode, and digroup A NPC number for that remote terminal.

#### **Command**

---

#### **Nonhierarchical**

---

[I.52041]

**UTL: [FRM xy, SEQ ww]: QRY, TO [s] abcddd [-eee] !**

## **Hierarchical**

---

[I.52041]

UTL:[FRM xy,SEQ ww]:QRY,TO uvmnpddd[-eee]!

## **Completion Message**

---

### **Nonhierarchical**

---

[O.52041]

M hh:mm:ss xy,ww n[vv] UTL QRY TO [s]abckkk TYPE mnxyz[ DGP [t]mno] e LN MSG:  
[<nonhierarchical\_PDS\_data\_line>]  
[<nonhierarchical\_PDS\_data\_line>]  
[<nonhierarchical\_PDS\_data\_line>]  
<nonhierarchical\_PDS\_data\_line> {EOM|COMPL}

.  
.  
.

[M hh:mm:ss xy,ww n[vv] UTL QRY TO [s]abclll TYPE mnxyz[ DGP [t]mno] e LN MSG:  
[<nonhierarchical\_PDS\_data\_line>]  
[<nonhierarchical\_PDS\_data\_line>]  
[<nonhierarchical\_PDS\_data\_line>]  
<nonhierarchical\_PDS\_data\_line> COMPL]

**nonhierarchical\_PDS\_data\_line** may take on the following forms:

Format 1 Data Line: For One-Way, Two-Way, and Broadcast Cross-Connections

[t]defiii ppqqq <tc>  
[AIS][ CUS][ RDC][ {UTST {TP kk|TG mmm}|ROLL}][ {ONEWAY|BCAST}]\  
[ TLA s][ trnk [r]adg ts]

Format 2 Data Line: For DMB to non-DMB Cross-Connections

[t]defiii ppqqq fmd,tmd snn,smm nn ee <tc>  
[CUS][ RDC][ {UTST TP kk|ROLL}][ ONEWAY][ NTR r][ TLA s]

Format 2a Data Line: For VI to non-VI Cross-Connections

[t]defiii ppqqq fmd,tmd <tc>  
[CUS][ RDC][ {UTST TP kk|ROLL}][ ONEWAY][ TLA s]

Format 3 Data Line: For DMB to DMB Cross-Connections

[t]defiii ppqqq fmd, tmd snn, smm vv ww spp, sqq tt uu <tc>  
[CUS][ RDC][ UTST TP kk][ NTR r][ TLA s]

Format 4 Data Line: Test Access to a Cross-Connection or Unmapped Termination

{TP kk|TG mmm} tsm l[vv] <tc> p [s]ghijjj q [t]jklenn  
[CUS][ RDC][ {ONEWAY|BCAST}][ NTR r][ TLA s]

Format 5 Data Line: For Subrate Cross-Connections

[-]-SECH- TRSP MUX

Format 6 Data Line: For Subrate Cross-Connections involving test access

TP kk tsm l[vv] <accpoint>[ TLA s]

Format 7 Data Line: For TS0 to non-TS0 Cross-Connections

Not applicable.

Format 8 Data Line: For E1 or T1 to SP Cross-connection

[t]defiii ppqqq trnk  
[{UTST {TP kk|TG mmm}|ROLL}][ TLA s]

**Note:** Formats 1 through 4 and Format 8 data lines are output as either one or two lines. The second line is output only if any of its optional fields are present.

[O.52042]

M hh:mm:ss xy, ww n[vv] UTL QRY TO [s]abchhh TYPE mnxyz 2 LN MSG:  
UASGN[ <tc> DCC][ CUS][ UTST {TP kk|TG mmm}][ cc] {EOM|COMPL}

## Hierarchical

[O.52041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmnpkkk TYPE mnxyz\
[ DGP feigh] e LN MSG:
[<hierarchical_PDS_data_line>]
[<hierarchical_PDS_data_line>]
[<hierarchical_PDS_data_line>]
<hierarchical_PDS_data_line> {EOM|COMPL}
```

.  
.  
.

```
[M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmnplll TYPE mnxyz\
[ DGP feigh] e LN MSG:
[<hierarchical_PDS_data_line>]
[<hierarchical_PDS_data_line>]
[<hierarchical_PDS_data_line>]
<hierarchical_PDS_data_line> COMPL]
```

**hierarchical\_PDS\_data\_line** may take on the following forms:

Format 1 Data Line: For One-Way, Two-Way, and Broadcast Cross-Connections

```
wxkqriii ppqqq <tc>
[AIS][ CUS][ RDC][ {UTST {TP kk|TG mmm}|ROLL}][ {ONEWAY|BCAST}][ TLA s]\
[ trnk klafg ts]
```

Format 2 Data Line: For DMB to non-DMB Cross-Connections

```
wxkqriii ppqqq fmd,tmd snn,smm nn ee <tc>
[CUS][ RDC][ {UTST TP kk|ROLL}][ ONEWAY][ NTR r][ TLA s]
```

Format 2a Data Line: For VI to non-VI Cross-Connections

```
wxkqriii ppqqq fmd,tmd <tc>
[CUS][ RDC][ {UTST TP kk|ROLL}][ ONEWAY][ TLA s]
```

Format 3 Data Line: For DMB to DMB Cross-Connections

```
wxkqriii ppqqq fmd,tmd snn,smm vv ww spp,sqq tt uu <tc>
[CUS][ RDC][ UTST TP kk][ NTR r][ TLA s]
```

Format 4 Data Line: Test Access to a Cross-Connection or Unmapped Termination

{TP kk|TG mmm} tsm l[vv] <tc> p edhfgjjj q opjstnnn  
[CUS][ RDC][ {ONEWAY|BCAST}][ NTR r][ TLA s]

Format 5 Data Line: For Subrate Cross-Connections

--SECH-- TRSP MUX

Format 6 Data Line: For Subrate Cross-Connections involving test access

TP kk tsm l[vv] <accpoint>[ TLA s]

Format 7 Data Line: For TS0 to non-TS0 Cross-Connections

Not applicable.

Format 8 Data Line: For E1 or T1 to SP Cross-connection

wxkqriii ppqqq trnk  
[{UTST {TP kk|TG mmm}|ROLL}][ TLA s]

**Note:** Formats 1 through 4 and Format 8 data lines are output as either one or two lines.  
The second line is output only if any of its optional fields are present.

[O.52042]

M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmnphhh TYPE mnxyz 2 LN MSG:  
UASGN[ <tc> DCC][ CUS][ UTST {TP kk|TG mmm}][ cc] {EOM|COMPL}

### **Denial Message**

---

### **Nonhierarchical**

---

[O.52041.01]

M hh:mm:ss xy,ww n[vv] UTL QRY TO [s]abcddd[-eee] TYPE ----- UEQD DNY

[O.52041.02]

M hh:mm:ss xy,ww n[vv] UTL QRY TO [s]abcddd[-eee] TYPE mnxyz RNGIE DNY

[O.52041.03]

M hh:mm:ss xy,ww n[vv] UTL QRY TO [s]abcd[ddd[-eee]\  
[ {RT|DL} ffff MD g[g] [t]hij] COND cc DNY

## Hierarchical

[O.52041.01]

M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmp[ddd[-eee] TYPE ----- UEQD DNY

[O.52041.02]

M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmp[ddd[-eee] TYPE mnxyz RNGIE DNY

[O.52041.03]

M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmp[ddd[-eee]\  
[ {RT|DL} ffff MD g[g] hhij] COND cc DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**TO** - To

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

- ddd** - Beginning range channel or conference number  
**eee** - End range channel or conference number  
**kkk** - Mid-range channel or conference number  
**lll** - Mid-range channel or conference number  
**hhh** - Typical midrange channel or conference number

Valid values are given below

#### Channel numbers

001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

#### Conference numbers

|         |               |
|---------|---------------|
| 001-500 | (Virtual NPC) |
| 001-085 | (MB NPC)      |



**UASGN** - Unassigned

**DCC** - Disconnect code

**tc** - Trunk conditioning

Represents the desired cross-connected signaling and insertion word applied when a failure occurs. A trunk conditioning specification consists of a combination of a signaling specification followed by an insertion word (IW) specification.

Valid values are listed below:

| <b>tc</b>                  | <i>signaling modes</i> |
|----------------------------|------------------------|
| <b>TC(ijkl,mnop) TRB</b>   | <b>2-way 4-state</b>   |
| <b>TC(ijkl,mnop) IW pq</b> | <b>2-way 4-state</b>   |
| <b>TC(----,mnop) TRB</b>   | <b>1-way 4-state</b>   |
| <b>TC(----,mnop) IW pq</b> | <b>1-way 4-state</b>   |
| <b>TC(ab,cd) TRB</b>       | <b>2-way 16-state</b>  |
| <b>TC(ab,cd) IW pq</b>     | <b>2-way 16-state</b>  |
| <b>TC(--,cd) TRB</b>       | <b>1-way 16-state</b>  |
| <b>TC(--,cd) IW pq</b>     | <b>1-way 16-state</b>  |
| <b>TRSP IW pq</b>          |                        |
| <b>TRSP TRB</b>            |                        |
| <b>TRSP</b>                |                        |

**TRB** - Trouble

**MUX** - Multiplexer out of sync

**TRSP** - Transparent

**RT** - Remote terminal

**DL** - Data link

**ffff** - SLC® remote terminal (RT) or digital carrier line unit (DCLU) bank identification number (0000 through 9999)

**MD** - Mode

**g[g]** - Mode of operation of the RT or DCLU

**g[g]** *Explanation*

- 1** SLC 96 Carrier Mode 1
- 3** SLC 96 Carrier Mode 3
- C** SLC Series 5 Carrier Feature Package C (FPC)

**AIS** - Alarm indication signal  
DS1 range cross-connection with AIS specifications

**accpoint**

- Access point under test

**accpoint**      *Explanation*

**[s]abchhh**      The multiplexed DS0B signal.

**[s]abchhh/ee**      The DS0A signal or customer ee data stream only for a DS0B signal.

**MPTM [s]abchhh/ee MJU nnnn [BRi]**

The multipoint master of the circuit [s]abchhh/ee and the leg of MJU nnnn which is under test.

If only "MJU nnnn" is specified, the control leg of MJU nnnn is under test. If "BRi" is specified, branch i of MJU nnnn is under test.

nnnn      (0000 through 9999)

i          (1 through 4)

**DGP** - Digroup P (protection digroup, SLC carrier bank)

**[t]mno**      - The 3- or 4-digit DGP nonhierarchical NPC number

**[t]hij**      - The 3- or 4-digit DGA (digroup A) nonhierarchical NPC number

**feigh** - DGP hierarchical NPC number

**hhijj** - DGA (digroup A) hierarchical NPC number

**[t]defiii**

- Nonhierarchical FROM termination

**[t]def**      - The 3- or 4-digit nonhierarchical NPC number

Valid values are identical to those for [s]abc

**iii**      - Channel number

Valid values are identical to those for ddd

**ppqqq** - NPC type of the FROM termination

To interpret values of ppqqq see the table following mnxyz below.

**Note:** If ppqqq = MB100 or VI100, then FROM is a multipoint termination and TO is not.

**TYPE** - Type

**mnxyz** - NPC Type

**mn**      *Explanation*

|    |                               |
|----|-------------------------------|
| DA | FTU ANSI NPC type             |
| DE | Enhanced digroup NPC          |
| DS | SLC® terminating digroup NPC  |
| MB | Digital multipoint bridge NPC |
| TA | DS3U ANSI NPC type            |
| TE | DS3U enhanced NPC             |
| TI | DS3U interface unit NPC       |
| VI | Virtual NPC                   |

**xyz**      - Multiframe, line and signaling, and channel numbering formats

DA-type xyz fields

**x**      - Multiframe format for the digroup

**x**      *Explanation*

|     |                                               |
|-----|-----------------------------------------------|
| 0   | Not assigned                                  |
| 1   | D4                                            |
| 2   | ESF - Voice                                   |
| 3   | ESF - Data                                    |
| 4   | DDST (T1DM - R bit connection via channel 24) |
| 5-7 | Not assigned                                  |
| 8   | Ericsson Cellular format                      |
| 9   | Not assigned                                  |

**y**      - Line and signaling format

**y**      *Explanation*

|     |                                                           |
|-----|-----------------------------------------------------------|
| 0   | ZCS - Zero code suppression                               |
| 1*  | NZCS - No zero code suppression                           |
| 2*  | B8ZS - Bipolar with 8 zero substitution                   |
| 3   | Not assigned                                              |
| 4   | ZCS/DMI - Zero code suppression/DMI signaling             |
| 5   | NZCS/DMI - No zero code suppression/DMI signaling         |
| 6   | B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling |
| 7-9 | Not assigned                                              |

\* Only options 1 and 2 are applicable to DA-type clear-DS1 NPC.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

## **z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering                |
| <b>1</b>   | D2 channel bank channel numbering                |
| <b>2</b>   | D1D channel bank channel numbering               |
| <b>3-8</b> | Not assigned                                     |
| <b>9</b>   | Unchannelized 193-bit Clear DS1 Cross-connection |

DA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a DA NPC with both a valid framing format (D4, ESF, T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the DA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II FTU, the NPC must be provisioned as NPC type **DE9y9**.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the DA NPC type. If ZBTSI is desired on an NPC in a DACS II FTU, the NPC must be provisioned as a DE NPC type with its **y** option selecting ZBTSI (**DEx3z**).

## DE-type xyz fields

### **x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | Not assigned                                     |
| <b>1</b>   | D4                                               |
| <b>2</b>   | ESF - Voice                                      |
| <b>3</b>   | ESF - Data                                       |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24)    |
| <b>5-7</b> | Not assigned                                     |
| <b>8</b>   | Ericsson Cellular format                         |
| <b>9</b>   | No framing format, transparent (TRSP), clear-DS1 |

**y** - Line and signaling format

**y**      *Explanation*

- 0**      ZCS - Zero code suppression
- 1\***     NZCS - No zero code suppression
- 2\***     B8ZS - Bipolar with 8 zero substitution
- 3†**     ZBTSI - Zero-bit time-slot interchanger
- 4**      ZCS/DMI - Zero code suppression/DMI signaling
- 5**      NZCS/DMI - No zero code suppression/DMI signaling
- 6**      B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling
- 7-9**    Not assigned

\* Only options 1 and 2 are applicable to DE-type clear-DS1 NPC.

† Only valid with ESF (x = 2 or 3)

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format

**z**      *Explanation*

- 0**      D4 channel bank channel numbering
- 1**      D2 channel bank channel numbering
- 2**      D1D channel bank channel numbering
- 3-8**    Not assigned
- 9**      No channel numbering format, clear-DS1

DS-type xyz fields

**x** - Multiframe format

**x**      *Explanation*

- 0**      Not assigned
- 1**      D4
- 2**      ESF - Voice
- 3**      Not assigned
- 4**      Not assigned
- 5**      Not assigned
- 6**      SLC® 96 carrier Fs
- 7**      SLC 5 carrier ESF with data link
- 8-9**    Not assigned

**y** - Line and signaling format

**y** *Explanation*

- 0** Zero code suppression (ZCS)
- 1** No zero code suppression (NZCS)
- 2** Bipolar with 8 zero substitution (B8ZS)
- 3-9** Not assigned

**z** - Counting sequence format

**z** *Explanation*

- 0** SLC 96 carrier Mode III D4 counting sequence
- 1** SLC 96 carrier Mode III D1D counting sequence
- 2** SLC 96 carrier Mode I D1D counting sequence
- 3** SLC Series 5 carrier D4 counting sequence
- 4-9** Not assigned

MB-type xyz fields

- x** - Fixed at 1
- y** - Fixed at 0
- z** - Fixed at 0

TA-type xyz fields

**x** - Multiframe format for the digroup

**x** *Explanation*

- 0** Not assigned
- 1** D4
- 2** ESF - Voice
- 3** ESF - Data
- 4** DDST (T1DM - R bit connection via channel 24)
- 5-7** Not assigned
- 8** Ericsson Cellular format
- 9** Not assigned

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                |
|------------|---------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                       |
| <b>1*</b>  | NZCS - No zero code suppression                   |
| <b>2</b>   | Not assigned                                      |
| <b>3</b>   | Not assigned                                      |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling     |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling |
| <b>6-9</b> | Not assigned                                      |

\* Only option 1 is applicable to TA-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering                |
| <b>1</b>   | D2 channel bank channel numbering                |
| <b>2</b>   | D1D channel bank channel numbering               |
| <b>3-8</b> | Not assigned                                     |
| <b>9</b>   | Unchannelized 193-bit Clear DS1 Cross-connection |

TA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a TA NPC with both a valid framing format (D4,ESF,T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the TA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as NPC type TE919.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the TA NPC type. If ZBTSI is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as a TE NPC type with its **y** option selecting ZBTSI (**TEx3z**).

TE-type xyz fields

**x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | Not assigned                                     |
| <b>1</b>   | D4                                               |
| <b>2</b>   | ESF - Voice                                      |
| <b>3</b>   | ESF - Data                                       |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24)    |
| <b>5-7</b> | Not assigned                                     |
| <b>8</b>   | Ericsson Cellular format                         |
| <b>9</b>   | No framing format, transparent (TRSP), clear-DS1 |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                |
|------------|---------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                       |
| <b>1*</b>  | NZCS - No zero code suppression                   |
| <b>2</b>   | Not assigned                                      |
| <b>3</b>   | Not assigned                                      |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling     |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling |
| <b>6-9</b> | Not assigned                                      |

\* Only option 1 is applicable to TE-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                     |
|------------|----------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering      |
| <b>1</b>   | D2 channel bank channel numbering      |
| <b>2</b>   | D1D channel bank channel numbering     |
| <b>3-8</b> | Not assigned                           |
| <b>9</b>   | No channel numbering format, clear-DS1 |



VI-type xyz fields

**x** - Fixed at 1

**y** - Fixed at 0

**z** - Fixed at 0

**e** - Number of lines in the message segment

**SECH** - Subrate establish channel

**CUS** - Customer

The circuit is a customer controlled circuit

**RDC** - Red circuit

The circuit is a red circuit

**UTST** - Under test

The circuit is under test

**ONEWAY** - One-way

The circuit is a one-way connection

**BCAST** - Broadcast

The circuit is a broadcast-type connection

**ROLL** - Roll

Bridged leg from Roll procedure

**TLA** - Terminate and leave active

**s** - Terminate and leave state

**s** *state*

**F** FROM terminated

**T** TO terminated

**B** BOTH terminated

**trnk** - Trunk type

Used only for custom E1 or T1 signaling conversion applications.

**trnk** *Explanation*

**E1DP** E1 Originated with DP Dialing  
**E1ND** E1 Originated without DP Dialing  
**T1DP** T1 Originated with DP Dialing  
**T1ND** T1 Originated without DP Dialing

**[r]adg** - Nonhierarchical signaling conversion NPC number

**Note:** Only ODD NPC numbers are valid in the tables listed below. The even numbered NPC is not available for any other NPC type.

If NPC numbers are expressed in three digits, the valid values are:

SP type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-031</b> | <b>161-191</b> | <b>321-351</b> | <b>481-511</b> | <b>641-671</b> | <b>801-831</b> |
| <b>041-071</b> | <b>201-231</b> | <b>361-391</b> | <b>521-551</b> | <b>681-711</b> | <b>841-871</b> |
| <b>081-111</b> | <b>241-271</b> | <b>401-431</b> | <b>561-591</b> | <b>721-751</b> | <b>881-911</b> |
| <b>121-151</b> | <b>281-311</b> | <b>441-471</b> | <b>601-631</b> | <b>761-791</b> | <b>921-951</b> |

If NPC numbers are expressed in four digits, the valid values are:

SP type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0031</b> | <b>0161-0191</b> | <b>0321-0351</b> | <b>0481-0511</b> |
| <b>0041-0071</b> | <b>0201-0231</b> | <b>0361-0391</b> | <b>0521-0551</b> |
| <b>0081-0111</b> | <b>0241-0271</b> | <b>0401-0431</b> | <b>0561-0591</b> |
| <b>0121-0151</b> | <b>0281-0311</b> | <b>0441-0471</b> | <b>0601-0631</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0671</b> | <b>0801-0831</b> | <b>0961-0991</b> | <b>1121-1151</b> |
| <b>0681-0711</b> | <b>0841-0871</b> | <b>1001-1031</b> | <b>1161-1191</b> |
| <b>0721-0751</b> | <b>0881-0911</b> | <b>1041-1071</b> | <b>1201-1231</b> |
| <b>0761-0791</b> | <b>0921-0951</b> | <b>1081-1111</b> | <b>1241-1271</b> |

| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1311</b> | <b>1441-1471</b> | <b>1601-1631</b> | <b>1761-1791</b> |
| <b>1321-1351</b> | <b>1481-1511</b> | <b>1641-1671</b> | <b>1801-1831</b> |
| <b>1361-1391</b> | <b>1521-1551</b> | <b>1681-1711</b> | <b>1841-1871</b> |
| <b>1401-1431</b> | <b>1561-1591</b> | <b>1721-1751</b> | <b>1881-1911</b> |
| <br>             |                  |                  |                  |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-1951</b> | <b>2081-2111</b> | <b>2241-2271</b> | <b>2401-2431</b> |
| <b>1961-1991</b> | <b>2121-2151</b> | <b>2281-2311</b> | <b>2441-2471</b> |
| <b>2001-2031</b> | <b>2161-2191</b> | <b>2321-2351</b> | <b>2481-2511</b> |
| <b>2041-2071</b> | <b>2201-2231</b> | <b>2361-2391</b> | <b>2521-2551</b> |

**klafg** - Hierarchical signaling conversion NPC number

**kl** - Unit number  
**a** - Module number  
**fg** - NPC number within the module

**Note:** Only ODD NPC numbers are valid in the tables listed below. The even numbered NPC is not available for any other NPC type.

SP type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-31</b> |

**ts** - Time slot

001-064      Signaling conversion time slot numbers

**fmd** - FROM multipoint circuit mode of the connection  
**tmd** - TO multipoint circuit mode of the connection

For DMB circuits, there are four possible values for fmd and tmd:

| <b>fmd,</b><br><b>tmd</b> | <i>Explanation</i>                                                                          |
|---------------------------|---------------------------------------------------------------------------------------------|
| SYM                       | For legs of a symmetrical multipoint circuit (must be a DMB channel)                        |
| BRD                       | For nonbackbone (tributary) legs of a broadcast multipoint circuit (must be a DMB channel)  |
| BBL                       | For the backbone leg of a broadcast multipoint circuit (must be a DMB channel)              |
| LEG                       | For the end that does not terminate on the multipoint circuit (must be an FTU/DS3U channel) |

For virtual NPC circuits, there are three possible values for fmd and tmd:

| <b>fmd,</b><br><b>tmd</b> | <i>Explanation</i>                                                                        |
|---------------------------|-------------------------------------------------------------------------------------------|
| BRD                       | For nonbackbone legs of a broadcast multipoint circuit (must be a virtual NPC channel)    |
| BBL                       | For the backbone leg of a broadcast multipoint circuit (must be a virtual NPC channel)    |
| LEG                       | For the end that does not terminate on the multipoint circuit (must be FTU/DS3U channels) |

**snn** - Incoming gain adjust parameters for the DMB NPC  
**smm** - Outgoing gain adjust parameters for the DMB NPC

**s** - Sign (+ or -)  
**nn** - Incoming gain adjust value (-90 through +88)  
**mm** - Outgoing gain adjust value (-90 through +88)

These are the parameters requested for the TO termination. Values are given in steps of two and the units are tenths of a db.

For type VI100 NPCs snn and smm will be output as "---"

The special value --- (three dashes) can be used for either snn or smm (but not both) when no change is to be made to that parameter. This feature allows changing only one of the two parameters if desired. Also, if the cross-connection was provisioned with the NTR (no transmit) option, the gain adjustment in the direction for which transmission is shut off MUST be ---.

**nn** - Noise guard setting (in dB) for the FROM/TO NPC

The following default values apply:

For Symmetrical bridges Default: nn = -18 db

For Polling circuits Default: nn = 0 db

Valid values are listed below:

**nn**

00 db

06 db

12 db

18 db

-- (For VI100 NPCs)

**ee** - Echo suppression setting (in dB) for the FROM/TO NPC

The following default values apply:

For Symmetrical bridges Default: ee = -18 db

For Polling circuits Default: ee = 0 db

Valid values are listed below:

**ee**

00 db

06 db

12 db

18 db

-- (For VI100 NPCs)

**spp** - Incoming gain adjust parameters for the TO DMB NPC

**sqq** - Outgoing gain adjust parameters for the FROM DMB NPC

See snn and smm above for explanation and values.

**vv** - Noise guard setting (in dB) for the FROM DMB NPC

**tt** - Noise guard setting (in dB) for the TO DMB NPC

See nn above for default values.

**vv, tt**

00 db

06 db

12 db

18 db

**ww** - Echo suppression setting (in dB) for the FROM DMB NPC  
**uu** - Echo suppression setting (in dB) for the TO DMB NPC

See ee above for default values.

**ww, uu**

00 db  
06 db  
12 db  
18 db

**NTR** - No transmit

**r** - Direction which has no transmission

**r**      *Explanation*

**F**      FROM

**T**      TO

**TP** - Test port

**kk** - Test port number (01 through 96)

**TG** - Test (access) group

**mmm** - Test group number (001 through 400)

**t sm** - Test mode

Values are listed below:

**t sm**    *Mode*

**HUB**    Hubbed

**LPD**    Looped

**MON**    Monitor

**SPL**    Split

**TPR**    Test Port Released

**TGR**    Test Group Released

**l** - Link used to access this test port (0 if mode is released)

**vv** - Virtual circuit number of an X.25 link used to access this test port  
(01 through 16)

**p** - Channel assignment

Valid values are listed below:

| <b>p</b> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|          |                                 |
|----------|---------------------------------|
| <b>F</b> | FROM side of circuit under test |
|----------|---------------------------------|

|          |                                                           |
|----------|-----------------------------------------------------------|
| <b>H</b> | HIGH channel of hubbed test port (only for HUB test mode) |
|----------|-----------------------------------------------------------|

**q** - Channel assignment

Valid values are listed below:

| <b>q</b> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|          |                               |
|----------|-------------------------------|
| <b>T</b> | TO side of circuit under test |
|----------|-------------------------------|

|          |                                                          |
|----------|----------------------------------------------------------|
| <b>L</b> | LOW channel of hubbed Test Port (only for HUB test mode) |
|----------|----------------------------------------------------------|

**[s]ghijj**

- Nonhierarchical FROM, HIGH, or DSPP NPC number

If test access is made to a digital signal processing platform (used for signaling conversion between an E1 and a T1 NPC) then [s]ghijj is the SP100 NPC.

**[t]jklenn**

- Nonhierarchical TO, LOW, E1, or T1 NPC number

If test access is made to a digital signal processing platform (used for signaling conversion between an E1 and a T1 NPC) then [t]jklenn is the E1 or T1 NPC.

**edhfg** - Hierarchical FROM/HIGH

**opjst** - Hierarchical TO/LOW

**ed, op** - Unit number

**h, j** - Module number

**fg, st** - NPC number within module

Valid values are identical to those for uvmnp

**[s]ghi, [t]jhk**

- The 3- or 4-digit nonhierarchical NPC number

Valid values are identical to those for [s]abc.

**jjj, nnn**

- Channel or time slot number

Valid values are identical to those for ddd above.

**UEQD** - Unequipped

**RNGIE** - Range input error

**COND** - Condition

**cc** - Hexadecimal condition code

**cc Explanation**

|    |                                                             |
|----|-------------------------------------------------------------|
| 15 | NPC is unequipped                                           |
| E3 | One way unassigned channel/NPC in QRY, TO                   |
| 0B | Invalid CEPT NPC                                            |
| 62 | Invalid channel number                                      |
| 63 | NPC is a DGP                                                |
| 7F | NPC is not added                                            |
| 91 | SR NPC was specified - not allowed                          |
| F7 | Corresponding NPC for virtual channel is<br>not provisioned |
| B4 | NPC is channelized type                                     |



---

## UTL, QRY, TO

---

### NON-CANNELIZED UTILITY QUERY TO

#### Explanation Of Command

---

This message requests provisioning information for a specific TO non-channelized network processing circuit.

#### Command

---

##### Nonhierarchical

---

[I.52061]

UTL:FRM xy,SEQ ww:QRY,TO [s]abc!

##### Hierarchical

---

[I.52061]

UTL:FRM xy,SEQ ww:QRY,TO uvmnp!

#### Completion Message

---

##### Nonhierarchical

---

[O.52061]

M hh:mm:ss xy,ww n[vv] UTL QRY TO [s]abc TYPE mnxyz 2 LN MSG:  
[[t]ghi mnxyz][ AIS][ CUS][ RDC][ {UTST|ROLL}]\  
[ {ONEWAY|BCAST|UASGN[ kk]}][ TLA s] COMPL

Usage: If the NPC is involved in test access,

[O.52061]

M hh:mm:ss xy,ww n[vv] UTL QRY TO [s]abc TYPE mnxyz 2 LN MSG:  
[t]ghi [u]klm FAD <tmode> <link number> COMPL

### **Hierarchical**

---

[O.52061]

M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmnp TYPE mnxyz 2 LN MSG:  
[wxkqr mnxyz][ AIS][ CUS][ RDC][ {UTST|ROLL}]\  
[ {ONEWAY|BCAST|UASGN[ kk]}][ TLA s] COMPL

Usage: If the NPC is involved in test access,

[O.52061]

M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmnp TYPE mnxyz 2 LN MSG:  
wxkqr ghijk FAD <tmode> <link number> COMPL

### **Denial Message**

---

### **Nonhierarchical**

---

[O.52061.01]

M hh:mm:ss xy,ww n[vv] UTL QRY TO [s]abc TYPE mnxyz COND cc DNY

### **Hierarchical**

---

[O.52061.01]

M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmnp TYPE mnxyz COND cc DNY

### **Autonomous Message**

---

Not applicable.

## Explanation Of Parameters

**TO** - To

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number of TO  
non-channelized NPC

The valid values are listed below:

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |
| <b>16A-16H</b> | <b>32A-32H</b> | <b>48A-48H</b> | <b>64A-64H</b> | <b>80A-80H</b> | <b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0160</b> | <b>0161-0320</b> | <b>0321-0480</b> | <b>0481-0640</b> |
| <b>016A-016H</b> | <b>032A-032H</b> | <b>048A-048H</b> | <b>064A-064H</b> |
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0800</b> | <b>0801-0960</b> | <b>0961-1120</b> | <b>1121-1280</b> |
| <b>080A-080H</b> | <b>096A-096H</b> | <b>112A-112H</b> | <b>128A-128H</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1440</b> | <b>1441-1600</b> | <b>1601-1760</b> | <b>1761-1920</b> |
| <b>144A-144H</b> | <b>160A-160H</b> | <b>176A-176H</b> | <b>192A-192H</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-2080</b> | <b>2081-2240</b> | <b>2241-2400</b> | <b>2401-2560</b> |
| <b>208A-208H</b> | <b>224A-224H</b> | <b>240A-240H</b> | <b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number of TO non-channelized NPC

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The valid values are:

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**[t]ghi** - The 3- or 4-digit nonhierarchical number of FROM NPC mapped to TO NPC, or FROM NPC in the test access connection (--- for unassigned NPC)

**[u]klm** - The 3- or 4-digit nonhierarchical number of TO NPC in the test access connection

----- or ----- for unassigned NPC

**wxkqr** - Hierarchical number of FROM NPC mapped to TO NPC

**ghijk** - FROM NPC in the test access connection.

**mnxyz** - NPC type of TO or FROM NPCs

|           |                    |
|-----------|--------------------|
| <b>mn</b> | <b>Explanation</b> |
|-----------|--------------------|

|    |                       |
|----|-----------------------|
| DA | Dual digroup ANSI NPC |
|----|-----------------------|

|    |                  |
|----|------------------|
| DE | Dual digroup NPC |
|----|------------------|

|    |               |
|----|---------------|
| TA | DS3U ANSI NPC |
|----|---------------|

|    |                            |
|----|----------------------------|
| TE | DS3U Noninterface unit NPC |
|----|----------------------------|

|    |                                |
|----|--------------------------------|
| -- | - Unequipped or unassigned NPC |
|----|--------------------------------|

DA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                        |
|------------|-----------------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                               |
| <b>1*</b>  | NZCS - No zero code suppression                           |
| <b>2*</b>  | B8ZS - Bipolar with 8 zero substitution                   |
| <b>3</b>   | Not assigned                                              |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling             |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling         |
| <b>6</b>   | B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling |
| <b>7-9</b> | Not assigned                                              |

\* Only options 1 and 2 are applicable to DA-type clear-DS1 NPC.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering                |
| <b>1</b>   | D2 channel bank channel numbering                |
| <b>2</b>   | D1D channel bank channel numbering               |
| <b>3-8</b> | Not assigned                                     |
| <b>9</b>   | Unchannelized 193-bit Clear DS1 Cross-connection |

DA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a DA NPC with both a valid framing format (D4, ESF, T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the DA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II FTU, the NPC must be provisioned as NPC type **DE9y9**.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the DA NPC type. If ZBTSI is desired on an NPC in a DACS II FTU, the NPC must be provisioned as a DE NPC type with its **y** option selecting ZBTSI (**DEx3z**).

#### DE-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | Not assigned                                     |
| <b>1</b>   | D4                                               |
| <b>2</b>   | ESF - Voice                                      |
| <b>3</b>   | ESF - Data                                       |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24)    |
| <b>5-7</b> | Not assigned                                     |
| <b>8</b>   | Ericsson Cellular format                         |
| <b>9</b>   | No framing format, transparent (TRSP), clear-DS1 |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                        |
|------------|-----------------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                               |
| <b>1*</b>  | NZCS - No zero code suppression                           |
| <b>2*</b>  | B8ZS - Bipolar with 8 zero substitution                   |
| <b>3†</b>  | ZBTSI - Zero-bit time-slot interchanger                   |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling             |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling         |
| <b>6</b>   | B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling |
| <b>7-9</b> | Not assigned                                              |

\* Only options 1 and 2 are applicable to DE-type clear-DS1 NPC.

† Only valid with ESF (x = 2 or 3)

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                     |
|------------|----------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering      |
| <b>1</b>   | D2 channel bank channel numbering      |
| <b>2</b>   | D1D channel bank channel numbering     |
| <b>3-8</b> | Not assigned                           |
| <b>9</b>   | No channel numbering format, clear-DS1 |

TA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                |
|------------|---------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                       |
| <b>1*</b>  | NZCS - No zero code suppression                   |
| <b>2</b>   | Not assigned                                      |
| <b>3</b>   | Not assigned                                      |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling     |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling |
| <b>6-9</b> | Not assigned                                      |

\* Only option 1 is applicable to TA-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).



**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering                |
| <b>1</b>   | D2 channel bank channel numbering                |
| <b>2</b>   | D1D channel bank channel numbering               |
| <b>3-8</b> | Not assigned                                     |
| <b>9</b>   | Unchannelized 193-bit Clear DS1 Cross-connection |

TA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a TA NPC with both a valid framing format (D4,ESF,T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the TA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as NPC type TE919.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the TA NPC type. If ZBTSI is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as a TE NPC type with its **y** option selecting ZBTSI (**TEx3z**).

TE-type xyz fields

**x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | Not assigned                                     |
| <b>1</b>   | D4                                               |
| <b>2</b>   | ESF - Voice                                      |
| <b>3</b>   | ESF - Data                                       |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24)    |
| <b>5-7</b> | Not assigned                                     |
| <b>8</b>   | Ericsson Cellular format                         |
| <b>9</b>   | No framing format, transparent (TRSP), clear-DS1 |

**y** - Line and signaling format

**y**      *Explanation*

**0**      ZCS - Zero code suppression

**1\***     NZCS - No zero code suppression

**2**      Not assigned

**3**      Not assigned

**4**      ZCS/DMI - Zero code suppression/DMI signaling

**5**      NZCS/DMI - No zero code suppression/DMI signaling

**6-9**    Not assigned

\* Only option 1 is applicable to TE-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format

**z**      *Explanation*

**0**      D4 channel bank channel numbering

**1**      D2 channel bank channel numbering

**2**      D1D channel bank channel numbering

**3-8**    Not assigned

**9**      No channel numbering format, clear-DS1

**AIS** - Alarm indication signal

The idle code for non-channelized cross-connection

**CUS** - Customer-controlled circuit

**RDC** - Red circuit

**UTST** - Circuit is under test

**tmode** - Test access mode

**FAD** - Facility access digroup

**TERM** - Termination

**F**      - From termination

**T**      - To termination

**B**      - Both terminations

**ONEWAY** - One-way connection

**BCAST** - Circuit is part of a broadcast connection

**UASGN** - Unassigned

**TLA s** - Connection is terminated in direction s (F-From, T-To, B-Both)

**ROLL** - Bridged facility from Roll procedure

**kk** - Hexadecimal completion condition code

*kk Explanation*

**E3** One way circuit. This means that although the receive side of the NPC is unassigned, the transmit side of the NPC is one-way connected. Thus, this NPC cannot be subsequently two-way connected.

**E4** Broadcast circuit. This means that although the receive side of the NPC is unassigned, the NPC is the backbone leg of a NTR type broadcast circuit. Thus, this NPC cannot be subsequently cross-connected, either one-way or two-way.

**cc** - Hexadecimal condition code

*cc Explanation*

**15** NPC is unequipped

**0B** Invalid CEPT NPC

**B4** NPC is channelized type

**E4** Broadcast unassigned channel/NPC in QRY, TO

## **UTL, QRY, TOD, CFA**

---

### **RETRIEVE PERFORMANCE MONITORING REPORT SCHEDULE**

#### **Explanation Of Command**

---

This command is used to query the scheduled time for the daily report of facility performance parameter threshold alarms (FAC) and carrier failure alarms (CFA). This command is used to query the scheduled time for the daily report of primary rate performance parameter threshold alarms (PRIM) and carrier failure alarms (CFA). On a frame with the GATEWAY feature enabled, the normal output response message format includes both the North American and International parameters.

#### **Command**

---

[I.51071]

**UTL:FRM xy,SEQ ww:QRY,TOD,CFA!**

#### **Completion Message**

---

[O.51071]

M hh:mm:ss xy,ww n[vv] QRY TOD FAC abcdef MDNT hrmsc COMPL

#### **Denial Message**

---

Not applicable.

#### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**TOD** - Time of day

**CFA** - Carrier Failure Alarm

Used to request the time of day for the daily CFA and FAC/PRIM report for non-PA and non-ANSI type NPCs.

**FAC** - Facility

Facility performance alarm report keyword.

**abcdef** - Facility performance alarm enable (hexadecimal)

The 4-bits in each of the hexadecimal digits correspond to a particular facility parameter. To enable alarm reports for a given facility parameter, set the appropriate bit of abcdef to 1. A bit set to 0 will disable the alarm report. Bit numbering is given below.

| <i>bit<br/>value</i> | <i>meaning</i> |
|----------------------|----------------|
| 0                    | disabled       |
| 1                    | enabled        |

| <i>hex<br/>digit</i> | <i>bit</i> | <i>parameter</i>                 |
|----------------------|------------|----------------------------------|
| f                    | 0          | CGA (Carrier Group Alarm)        |
|                      | 1          | OOF (Out of Frame)               |
|                      | 2          | SLIP                             |
|                      | 3          | BER (Bit Error Rate)             |
| e                    | 4          | ERS (Errored Seconds)            |
|                      | 5          | SERS (Severely Errored Seconds)  |
|                      | 6          | COFA (Change of Frame Alignment) |
|                      | 7          | CRC (Cyclic Redundancy Checksum) |
| d                    | 8          | BPV (Bipolar Violations)         |
|                      | 9          | FRER (Frame Errors)              |
|                      | 10         | Not Used                         |
|                      | 11         | Not Used                         |
| c                    | 12         | Not Used                         |
|                      | 13         | Not Used                         |
|                      | 14         | Not Used                         |
|                      | 15         | Not Used                         |
| b                    | 16         | SANE (Shelf Alarm Near End)      |
|                      | 17         | SAFE (Shelf Alarm Far End)       |
|                      | 18         | DS3 ALM (DS3 Alarm)              |
|                      | 19         | Not Used                         |
| a                    | 20         | Not assigned                     |
|                      | 21         | Not assigned                     |
|                      | 22         | Not assigned                     |
|                      | 23         | Not assigned                     |

**MDNT** - Midnight  
The MDNT will be shown in the output when the CFA option is entered.

**hrmns** - Time of the scheduled performance parameter report

## **UTL,QRY,TPS**

---

### **UTILITY QUERY, TEST PORTS**

#### **Explanation Of Command**

---

This command reports the network processing circuits (NPCs) used for test ports, their designation, and the test modes of each equipped test port. The report includes the DSO test port and non-channelized test NPCs.

Not listed are any test ports that are unequipped with numbers less than that of the highest equipped test port **within** a network processing circuit for test ports (NPCTP) since in each NPC they must be grown in numerical order starting with the lowest numbered test port within each NPCTP (01, 13, 25, etc.).

All non-channelized test NPCs or Facility Access Digroups (FADs) will be listed together in one or more segments. Each FAD number is the same as the NPC number, and is given with its test mode.

#### **Command**

---

[I.53061]

**UTL:FRM xy,SEQ ww:QRY,TPS!**

## Completion Message

### Nonhierarchical

[O.53061]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TPS kk e LN MSG:
NPCTP n NPC [s]abc <md01> <md02> ... <md12>
NPCTP n NPC [s]abc <md13> <md14> ... <md24>
NPCTP n NPC [s]abc <md25> <md26> ... <md36>
NPCTP n NPC [s]abc <md37> <md38> ... <md48> <EOM|COMPL>
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY TPS kk e LN MSG:
NPCTP n NPC [s]abc <md49> <md50> ... <md60>
NPCTP n NPC [s]abc <md61> <md62> ... <md72>
NPCTP n NPC [s]abc <md73> <md74> ... <md84>
NPCTP n NPC [s]abc <md85> <md86> ... <md96> <EOM|COMPL>
```

[O.53061]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FAD kk e LN MSG:
[s]abc,<tmode> [s]abc,<tmode> [s]abc,<tmode> [s]abc,<tmode>
[s]abc,<tmode> [s]abc,<tmode> [s]abc,<tmode> [s]abc,<tmode>
[s]abc,<tmode> [s]abc,<tmode> [s]abc,<tmode> [s]abc,<tmode>
[s]abc,<tmode> [s]abc,<tmode> EOM
.
.
.
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY FAD kk e LN MSG:
[s]abc,<tmode> [s]abc,<tmode> [s]abc,<tmode> [s]abc,<tmode>
[s]abc,<tmode> [s]abc,<tmode> [s]abc,<tmode> [s]abc,<tmode>
[s]abc,<tmode> [s]abc,<tmode> [s]abc,<tmode> [s]abc,<tmode>
[s]abc,<tmode> [s]abc,<tmode> EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY TPS COMPL
```

[O.53062]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TPS 00 NPC [0]000 COMPL
```



## **Hierarchical**

[O.53061]

M hh:mm:ss xy,ww n[vv] UTL QRY TPS kk p LN MSG:  
NPCTP n NPC uvmnp <md01> <md02> ... <md12>  
NPCTP n NPC uvmnp <md13> <md14> ... <md24>  
NPCTP n NPC uvmnp <md25> <md26> ... <md36>  
NPCTP n NPC uvmnp <md37> <md38> ... <md48> <EOM|COMPL>

M hh:mm:ss xy,ww n[vv] UTL QRY TPS kk p LN MSG:  
NPCTP n NPC uvmnp <md49> <md50> ... <md60>  
NPCTP n NPC uvmnp <md61> <md62> ... <md72>  
NPCTP n NPC uvmnp <md73> <md74> ... <md84>  
NPCTP n NPC uvmnp <md85> <md86> ... <md96> <EOM|COMPL>

[O.53061]

M hh:mm:ss xy,ww n[vv] UTL QRY FAD kk p LN MSG:  
uvmnp,<tmode> uvmnp,<tmode> uvmnp,<tmode> uvmnp,<tmode>  
uvmnp,<tmode> uvmnp,<tmode> uvmnp,<tmode> uvmnp,<tmode>  
uvmnp,<tmode> uvmnp,<tmode> uvmnp,<tmode> uvmnp,<tmode>  
uvmnp,<tmode> EOM

.  
.  
.

M hh:mm:ss xy,ww n[vv] UTL QRY FAD kk p LN MSG:  
uvmnp,<tmode> uvmnp,<tmode> uvmnp,<tmode> uvmnp,<tmode>  
uvmnp,<tmode> uvmnp,<tmode> uvmnp,<tmode> uvmnp,<tmode>  
uvmnp,<tmode> uvmnp,<tmode> uvmnp,<tmode> uvmnp,<tmode>  
uvmnp,<tmode> EOM

M hh:mm:ss xy,ww n[vv] UTL QRY TPS COMPL

[O.53062]

M hh:mm:ss xy,ww n[vv] UTL QRY TPS 00 NPC 00000 COMPL

## **Denial Message**

Not applicable.

## **Autonomous Message**

Not applicable.

## Explanation Of Parameters

**TPS** - Test ports

**kk** - Total number of test ports equipped or total number of equipped non-channelized test NPCs in segment

**NPC** - Network processing circuit

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number of test NPC

The valid values are:

If NPC numbers are expressed in three digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number of test NPC

**uv** - Unit number  
**m** - Module number  
**np** - NPC number within the module

The valid values are:

DE and DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE and TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**NPCTP** - NPC for test ports

**FAD** - Facility access digroup  
Non-channelized test NPC

**n** - 64Kbit/s NPCTP number (1 through 8)

**md01-md96**  
- Mode of 64Kbit/s Test Port number nn (01 through 96)

*mdnn Definition*

|     |                    |
|-----|--------------------|
| TPR | Test Port Released |
| MON | Monitor            |
| SPL | Split              |
| HUB | Hubbed             |
| LPD | Looped             |
| --- | Not equipped       |

**tmode** - Test mode of non-channelized test NPC

| <i>tmode</i> | <i>Definition</i> |
|--------------|-------------------|
| MONE         | Monitor E (FROM)  |
| MONF         | Monitor F (TO)    |
| MONEF        | Monitor E and F   |
| SPLTA        | Split A           |
| SPLTB        | Split B           |
| SPLTAB       | Split A and B     |
| SPLTE        | Split E           |
| SPLTF        | Split F           |
| SPLTEF       | Split E and F     |
| LOOPE        | Loop E            |
| LOOPF        | Loop F            |
| LPBKT        | Loopback Test     |
| HUB          | Hub               |

**e** - Number of lines in message (2 through 5)

## **UTL, QRY, TSIG, NPC**

### **QUERY ANSI NPC TEST SIGNAL**

#### **Explanation Of Command**

This message queries whether a single or range of Network Processing Circuits (NPCs) are transmitting Payload or ESF data link test signals. Only ANSI (DA/TA-type) NPCs provide this capability.

The response is formatted on a module by module basis. The response indicates whether or not any Payload and/or Data Link Test Signals are currently active for each NPC in the addressed range. An NPC may have both a Payload and a Data Link Test Signal active simultaneously.

#### **Command**

##### **Nonhierarchical**

[I.53161]

**UTL:FRM xy,SEQ ww:QRY,TSIG,NPC [s]abc[-[t]def]!**

##### **Hierarchical**

[I.53161]

**UTL:FRM xy,SEQ ww:QRY,TSIG,NPC uvmnp[-wxkqr]!**

## Completion Message

### Nonhierarchical

[O.53161]

M hh:mm:ss xy,ww n[vv] UTL QRY TSIG NPC [u]ghi-[u]jkl TOT nnn\  
[ COND cc] 5 LN MSG:  
pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd [pp/dd pp/dd pp/dd]  
pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd [pp/dd pp/dd pp/dd]  
pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd [pp/dd pp/dd pp/dd]  
pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd [pp/dd pp/dd pp/dd] EOM

.  
.  
.

M hh:mm:ss xy,ww n[vv] UTL QRY TSIG NPC [v]mno-[v]pqr TOT nnn\  
[ COND cc] 5 LN MSG:  
pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd [pp/dd pp/dd pp/dd]  
pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd [pp/dd pp/dd pp/dd]  
pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd [pp/dd pp/dd pp/dd]  
pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd [pp/dd pp/dd pp/dd] EOM

M hh:mm:ss xy,ww n[vv] UTL QRY TSIG NPC [s]abc-[t]def[ COND cc] COMPL

[O.53162]

M hh:mm:ss xy,ww n[vv] UTL QRY TSIG NPC [s]abc pp/dd COMPL

## **Hierarchical**

---

[O.53161]

M hh:mm:ss xy,ww n[vv] UTL QRY TSIG NPC uvmaa-uvmbb TOT nnn\  
[ COND cc] 5 LN MSG:  
pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd [pp/dd pp/dd pp/dd]  
pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd [pp/dd pp/dd pp/dd]  
pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd [pp/dd pp/dd pp/dd]  
pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd [pp/dd pp/dd pp/dd] EOM

.  
.  
.

M hh:mm:ss xy,ww n[vv] UTL QRY TSIG NPC wxkaa-wxkbb TOT nnn\  
[ COND cc] 5 LN MSG:  
pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd [pp/dd pp/dd pp/dd]  
pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd [pp/dd pp/dd pp/dd]  
pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd [pp/dd pp/dd pp/dd]  
pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd pp/dd [pp/dd pp/dd pp/dd] EOM

M hh:mm:ss xy,ww n[vv] UTL QRY TSIG NPC uvmnp-wxkqr[ COND cc] COMPL

[O.53162]

M hh:mm:ss xy,ww n[vv] UTL QRY TSIG NPC uvmnp pp/dd COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.53161.01]

M hh:mm:ss xy,ww n[vv] UTL QRY TSIG NPC [s]abc[-[t]def] \  
COND cc DNY

### **Hierarchical**

---

[O.53161.01]

M hh:mm:ss xy,ww n[vv] UTL QRY TSIG NPC uvmnp[-wxkqr] \  
COND cc DNY



### Autonomous Message

Not applicable.

### Explanation Of Parameters

|               |                                                                    |
|---------------|--------------------------------------------------------------------|
| <b>TSIG</b>   | - Test signal                                                      |
| <b>NPC</b>    | - Network processing circuit                                       |
| <b>[s]abc</b> | - The 3- or 4-digit nonhierarchical NPC number, start of NPC range |
| <b>[t]def</b> | - The 3- or 4-digit nonhierarchical NPC number, end of NPC range   |
| <b>[u]ghi</b> | - Lowest numbered NPC in the FTM that contains NPC [s]abc          |
| <b>[v]mno</b> | - Lowest numbered NPC in the FTM that contains NPC [t]def          |
| <b>[u]jkl</b> | - Highest numbered NPC in the FTM that contains NPC [s]abc         |
| <b>[v]pqr</b> | - Highest numbered NPC in the FTM that contains NPC [t]def         |

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                              |                              |                              |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |

| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number for beginning of NPC range

**wxkqr** - Hierarchical NPC number for end of NPC range

**uv, wx** - Unit number

**m, k** - Module number

**np, qr** - NPC number within the module

The valid values are:

DA type NPC numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number

Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

The range of NPCs in the denial messages will be given either as module or unit boundaries depending upon the reason for the denial.

**uvmaa** - Lowest numbered NPC in the FTM that contains NPC uvmnp

The parameter value for NPC aa is in the first position, first line of the message.

**uvmmb** - Highest numbered NPC in the FTM that contains NPC uvmnp

The parameter value for NPC bb is just before EOM.

**wxkaa** - Lowest numbered NPC in the FTM that contains NPC wxkqr

**wxkbb** - Highest numbered NPC in the FTM that contains NPC wxkqr

**pp/dd** - ANSI Payload/Data Link Test Signal Types

Values of "pp/dd" are presented in NPC order, grouped within messages by Facility Terminating Module (FTM). For FTM's in Facility Terminating Units, each row of output contains 10 values. For FTM's in DS3 Units, each row of output contains 7 values.

*pp Explanation*

|    |                                                            |
|----|------------------------------------------------------------|
| YL | Yellow Test Signal in D4/T1DM framing mode                 |
| HD | High Density Test Signal                                   |
| LD | Low Density Test Signal                                    |
| QR | Quasi-Random Test Signal                                   |
| NN | No Payload Test Signal active                              |
| 00 | NPC not specified in input range command                   |
| -- | NPC not equipped, not in service, or not ANSI (DA,TA) type |

*dd Explanation*

|    |                                                            |
|----|------------------------------------------------------------|
| YL | Yellow Test Signal in ESF framing mode                     |
| LR | Loopback Retention Signal                                  |
| NN | No Data Link Test Signal active                            |
| 00 | NPC not specified in input range command                   |
| -- | NPC not equipped, not in service, or not ANSI (DA,TA) type |

**TOT** - Total

**nnn** - Total Number of NPCs in the module that are in the loopback state

**COND** - Condition

**cc** - Hexadecimal condition code

*cc Explanation*

|           |                                                                   |
|-----------|-------------------------------------------------------------------|
| <b>10</b> | Unit is not equipped                                              |
| <b>11</b> | UC is out of service                                              |
| <b>12</b> | UC is in service but failed                                       |
| <b>14</b> | FTMI is out of service                                            |
| <b>1F</b> | FTMI is in service but failed                                     |
| <b>26</b> | NPC type error                                                    |
| <b>A0</b> | The selected MXR associated with the NPC is Out-Of-Service        |
| <b>A1</b> | The selected MXR associated with the NPC is In-Service but failed |

## **UTL, QRY, UNIT, FTMI, EQL**

### **UTILITY QUERY EQUALIZATION, IMPEDANCE**

#### **Explanation Of Command**

This message requests the equalization values for a facility terminating module interface (FTMI) in a facility terminating unit (FTU).

#### **Command**

[I.53071]

UTL:FRM xy,SEQ ww:QRY,UNIT [q]q,FTMI b[,EQL]!

#### **Completion Message**

[O.53071]

M hh:mm:ss xy,ww n[vv] UTL QRY UNIT [q]q FTMI b EQL l r COMPL

#### **Denial Message**

[O.53071.01]

M hh:mm:ss xy,ww n[vv] UTL QRY UNIT [q]q FTMI b EQL COND cc DNY

#### **Autonomous Message**

Not applicable.

## Explanation Of Parameters

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**FTMI** - Facility terminating module interface

**b** - FTMI number (1 through 4)

**EQL** - Equalization

**l** - Left half shelf equalization value (first 10 Dual Digroup Circuits)

**r** - Right half shelf equalization value (second 10 Dual Digroup Circuits)

Enter a dash for an equalization value if that value is not to be changed.

Equalization option values for 255AS/24 gauge cable

| <i>l</i> | <i>Explanation</i>         |
|----------|----------------------------|
| 1        | 000 to 100 feet            |
| 2        | 100 to 200 feet            |
| 3        | 200 to 300 feet            |
| 4        | 300 to 400 feet            |
| 5        | 400 to 500 feet            |
| -        | Do not change equalization |

Equalization option values for 600 series/22 gauge cable

| <i>l</i> | <i>Explanation</i>         |
|----------|----------------------------|
| 1        | 000 to 050 feet            |
| 2        | 051 to 267 feet            |
| 3        | 268 to 400 feet            |
| 4        | 401 to 533 feet            |
| 5        | 534 to 655 feet            |
| -        | Do not change equalization |

Equalization option values for 1249/26 gauge cable

| <i>l</i> | <i>r</i> | <i>Explanation</i>         |
|----------|----------|----------------------------|
| 1        |          | 000 to 090 feet            |
| 2        |          | 090 to 180 feet            |
| 3        |          | 180 to 270 feet            |
| 4        |          | 270 to 360 feet            |
| 5        |          | 360 to 450 feet            |
| -        |          | Do not change equalization |

**cc** - Hexadecimal condition code

| <b>cc</b> | <i>Explanation</i>                      |
|-----------|-----------------------------------------|
| <b>02</b> | Subject entity is not equipped          |
| <b>10</b> | Unit is not equipped                    |
| <b>83</b> | NPC type is inconsistent with FTMI type |
| <b>11</b> | NPC not equipped                        |

## **UTL, QRY, WHO**

---

### **UTILITY QUERY WHO**

#### **Explanation Of Command**

---

This message requests a display of the unique frame identifier (UFI) of the DACS frame, the software version identifier, and the feature package identification code.

#### **Command**

---

[I.51041]

UTL:FRM xy,SEQ ww:QRY,WHO!

#### **Completion Message**

---

[O.51041]

M hh:mm:ss xy,ww n[vv] UTL QRY WHO <uid> 2 LN MSG:  
RELEASE DACSIgg POINT pp VERSION r FPKG kkttuuvv COMPL

#### **Denial Message**

---

Not applicable.

#### **Autonomous Message**

---

Not applicable.



## Explanation Of Parameters

**WHO** - Who

With reference to the frame "Who are you?"

**uid** - Unique (frame) identifier (1 to 20 alphanumeric characters)

The uid is initialized by GRTH::FRAME.

If the uid is not initialized, no characters will appear.

**VERSN** - Version

**DACSII** - DACS II

**gg** - DACS II software release number

**pp** - DACS II software release point number

**r** - Version number of the release point

**FPKG** - Feature package

**kkttuuvv**

- Feature package identifier

| kkttuuvv | Feature                                       |
|----------|-----------------------------------------------|
| 00000001 | DS1                                           |
| 00000002 | CEPT                                          |
| 00000004 | Subrate                                       |
| 00000008 | Direct SLC® 96 and Series 5 Carrier Interface |
| 00000010 | DS3 Terminations                              |
| 00000020 | Enhanced CEPT                                 |
| 00000040 | Switched Teleconferencing                     |
| 00000080 | CEF                                           |
| 00000100 | Enhanced DS1 Performance Monitoring           |
| 00000200 | DS0/DS1 Roll                                  |
| 00000400 | AT&T Security Warning Message                 |
| 00000800 | Nx64kbit Test Access                          |
| 00001000 | Clear 2MB/s Interface                         |
| 00002000 | TS0 to Non-TS0 Cross-connection               |
| 00004000 | 2MB/S Roll                                    |

In general a feature package identification code is a combination of several individual feature package numbers. To determine the individual features that make up a feature package it is necessary to decode the feature package identification code. This code is an eight digit hexadecimal number. Each hexadecimal number represents a four-bit binary number. Within this binary number each feature is associated with one particular bit. Consequently to determine the feature list from a feature package identification code it is necessary to convert each hexadecimal digit to its binary equivalent and look up the features in the list above. For example the feature package identification code 0000000F can be converted to the following binary number working from left to right one hex digit at a time.

0000 0000 0000 0000 0000 0000 0000 1111

This number contains eight binary numbers each representing one of the hexadecimal numbers in the feature package identification code 0000000F. The rightmost number of the code contains four features since there are four bits set to one. This would be decoded as follows using the table of features above.

|       | binary | hex | Feature                      |
|-------|--------|-----|------------------------------|
|       | 0001   | 1   | DS1                          |
|       | 0010   | 2   | CEPT                         |
|       | 0100   | 4   | Subrate                      |
|       | 1000   | 8   | Direct SLC                   |
| Total | 1111   | F   | (DS1 + CEPT + Subrate + SLC) |

## **UTL, QRY, XCSB, UNIT**

### **QUERY CROSS-CONNECT STATUS BUS**

#### **Explanation Of Command**

This command requests a check of the side switch consistency between the hardware entities and the data base. Depending on the result of the cross-connect consistency check, DACS II will respond with different outputs as specified in the following sections.

If the entities of a unit are either all consistent or all inconsistent with the data base, a single line output will be generated. The field "DB s", which indicates the active side recorded in the data base (DB), will always be shown, while the keyword "UM" (Unmatch) will be shown only if all entities of the unit are inconsistent with the data base.

**Note:** For an FTU, if some but not all of its DDCs are consistent with the data base, four output message segments will be generated. Each segment will report the side status for NPCs in one Facility Terminating Module (FTM). If all NPCs in an FTM have the same status, the segment for the FTM will have only one line; otherwise, it will be a five-line segment.

When this command is entered, the side selection configuration register on each dual digroup circuit of the facility terminating units and each multiplexer of the DS3 units is compared with the information stored in the data base. In addition, the configuration register on each cross-connect network interface or clock and control interface (CCNI/CCI) is also checked against the status of the data base.

This command can be entered to request the status of the whole frame or of a particular unit. If the status of the whole frame is requested, DACS II will output the result for each unit in ascending order from units 01 through 16. Unequipped units or digital signal processing units will not be checked and reported. If the unit number is specified on input, it must be an FTU or DS3U ; otherwise, the command will be denied.

After the unit-related results are reported, DACS II will output the result for the CCNI/CCI.

If all DDCs/MXR(s) of an FTU/DS3U are marked pass, DACS II will generate the completion output (O.55181) showing the active side indicated in the data base, that is, showing "DB s". If all of them are marked fail, the "UM" keyword will also be shown to indicate that the side selected by the entities does not match the side recorded in the data base.

For a DS3U, if all its MXRs do not have the same marking, output message O.55182 will be generated. This message will give the MXR number of the MXR(s) marked fail. MXR(s) that is (are) pested, out-of-service, or marked pass will show a dash (-) in place of the MXR number.

For an FTU, if all its DDCs do not have the same marking, output message O.55183 will be generated. This message will give the NPC number of the NPC(s) marked fail. NPCs that are pested, out-of-service, or marked pass will show dashes (---) in place of the NPC number. Since the two NPCs of a DDC will always have the same status, the two NPC numbers will either both be shown or both be represented by dashes. For the CCNIs/CCIs, if the side status for one or both packs does not agree with the data base, the key word "UM" will be output in the output message O.55184. A pack that has failed is identified by its side number whereas a pack that has passed is identified by a dash "-".

The execution of this command and the output of messages in response to its execution can be aborted by use of the ABT command.

## Command

[I.55181]

UTL:FRM xy,SEQ ww:QRY,XCSB[,UNIT [q]q]!

## Completion Message

### Nonhierarchical

[O.55183]

```
M hh:mm:ss xy,ww n[vv] UTL QRY XCSB UNIT [q]q UM BD s NPCS [s]abc-[t]def 5 LN MSG:
[s]ghi-[t]jkl [s]ghi-[t]jkl [s]ghi-[t]jkl [s]ghi-[t]jkl [s]ghi-[t]jkl
[s]ghi-[t]jkl [s]ghi-[t]jkl [s]ghi-[t]jkl [s]ghi-[t]jkl [s]ghi-[t]jkl
[s]ghi-[t]jkl [s]ghi-[t]jkl [s]ghi-[t]jkl [s]ghi-[t]jkl [s]ghi-[t]jkl
[s]ghi-[t]jkl [s]ghi-[t]jkl [s]ghi-[t]jkl [s]ghi-[t]jkl [s]ghi-[t]jkl {EOM|COMPL}
```

[O.55183]

```
M hh:mm:ss xy,ww n[vv] UTL QRY XCSB UNIT [q]q[ UM] DB s \
NPCS [s]abc-[t]def COND kk {EOM|COMPL}
```

## Hierarchical

---

[O.55183]

M hh:mm:ss xy,ww n[vv] UTL QRY XCSB UNIT [q]q UM DB s NPCS uvmnp-uvmqr 5 LN MSG:  
uvmhi-uvmkl uvmhi-uvmkl uvmhi-uvmkl uvmhi-uvmkl uvmhi-uvmkl  
uvmhi-uvmkl uvmhi-uvmkl uvmhi-uvmkl uvmhi-uvmkl uvmhi-uvmkl  
uvmhi-uvmkl uvmhi-uvmkl uvmhi-uvmkl uvmhi-uvmkl uvmhi-uvmkl  
uvmhi-uvmkl uvmhi-uvmkl uvmhi-uvmkl uvmhi-uvmkl uvmhi-uvmkl {EOM|COMPL}

[O.55183]

M hh:mm:ss xy,ww n[vv] UTL QRY XCSB UNIT [q]q[ UM] DB s \  
NPCS uvmnp-uvmqr COND kk {EOM|COMPL}

## Common

---

[O.55181]

M hh:mm:ss xy,ww n[vv] UTL QRY XCSB UNIT [q]q[ UM] DB s ALL COND kk COMPL

**Note:** For a DS3U, if some but not all of its MXRs are consistent with the database, the MXR number will be shown for the ones that are inconsistent.

[O.55182]

M hh:mm:ss xy,ww n[vv] UTL QRY XCSB UNIT [q]q UM DS s MXR a b c d e f g COMPL

[O.55184]

M hh:mm:ss xy,ww n[vv] UTL QRY XCSB {CCNI|CCI} h j[ UM] DB s COMPL

## Denial Message

---

[O.55181.01]

M hh:mm:ss xy,ww n[vv] UTL QRY XCSB[ UNIT [q]q] COND cc DNY

## Autonomous Message

---

Not applicable.

## Explanation Of Parameters

**XCSB** - Cross-Connect Status Bus

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**[s]abc** - The 3- or 4-digit nonhierarchical FTU NPC number of the first NPC in an FTM

**[t]def** - The 3- or 4-digit nonhierarchical FTU NPC number of the last NPC in an FTM

**[s]ghi** - The 3- or 4-digit nonhierarchical odd FTU NPC number  
([s]abc through [t]def)

**[t]jkl** - The 3- or 4-digit nonhierarchical even FTU NPC number  
([t]jkl = [s]ghi + 1)

The valid values are:

If NPC numbers are expressed in three digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE and DS type NPC numbers listed by unit number, Unit Type FT (IFTU/FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

**uvmnp** - Hierarchical FTU NPC number of the first NPC in an FTM  
**uvmqr** - Hierarchical FTU NPC number of the last NPC in an FTM  
**uvmhi** - Hierarchical odd FTU NPC number (uvmnp through uvmkl)  
**uvmkl** - Hierarchical even FTU NPC number (uvmkl = uvmhi + 1)

**uv** - Unit number  
**m** - Module number  
**np, qr, hi, kl**  
- NPC number

The valid values are:

DE and DS type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

**UM** - Unmatched

This keyword indicates there are entities selecting a side different from the side recorded in the database.

**DB** - Database

**s** - Cross-connect side (0 or 1)

**MXR** - Multiplexer

**a,**

...,

**g** - Multiplexer status

The assignment of multiplexers to variables a through g is shown below.

|               |                            |
|---------------|----------------------------|
| a b c d e f g | Variable                   |
| P 1 2 3 4 5 6 | Multiplexer identification |

The multiplexer identification appears if the multiplexer has failed.  
The appearance of a dash (-) in place of a multiplexer identification indicates that the particular multiplexer passed.

**CCNI** - Cross-connect network interface (NonCEF)

**CCI** - Clock and control interface (CEF)

**h** - CCNI/CCI 0 status

**j** - CCNI/CCI 1 status

The assignment of CCNIs/CCIs to variables h and j is shown below.

|     |                         |
|-----|-------------------------|
| h j | Variable                |
| 0 1 | CCNI/CCI identification |

The CCNI/CCI identification appears if the CCI has failed. The appearance of a dash in place of a CCNI/CCI identification indicates that the particular CCNI/CCI passed.

**kk** - Completion condition code (hexadecimal)

To interpret values of kk use the table of cc values below.

**cc** - Hexadecimal condition code

**cc**    *Explanation*

|           |                               |
|-----------|-------------------------------|
| <b>00</b> | No conditions                 |
| <b>05</b> | Subject entity is pested      |
| <b>10</b> | Unit is not equipped          |
| <b>11</b> | UC is out of service          |
| <b>12</b> | UC is in service but failed   |
| <b>13</b> | FTMI is not equipped          |
| <b>14</b> | FTMI is out of service        |
| <b>1F</b> | FTMI is in service but failed |
| <b>24</b> | Unit type error               |



## **UTL,RCY,COND,IN,PROGRESS**

### **UTILITY QUERY, ERROR RECOVERY**

#### **Explanation Of Command**

This message reports that an autonomous error recovery action has been taken to an entity. An in-progress message will be output every 20 seconds until the action is completed or denied.

#### **Command**

Not applicable.

#### **Completion Message**

Not applicable.

#### **Denial Message**

Not applicable.

#### **Autonomous Message**

[O.55021]

**I hh:mm:ss xy,ww    UTL RCY <entity> <action> COND cc COMPL**

[O.55022]

**I hh:mm:ss xy,ww    UTL RCY IN PROGRESS**

[O.55021.01]

**I hh:mm:ss xy,ww    UTL RCY <entity> <action> COND cc DNY**

## Explanation Of Parameters

**RCY** - Internal recovery error

**entity** - DACS II entity involved

| <i>entity</i> | <i>Explanation</i>                     |
|---------------|----------------------------------------|
| MC            | Action on Main Controller              |
| MP            | Action on Main Processor               |
| CI            | Action on Communication Interface      |
| DISK          | Action on DISK unit                    |
| TAPE          | Action on TAPE unit                    |
| UNIT [q]q     | Action on specific unit (1 through 16) |
| FRAME         | Frame wide action                      |

**action** - Action that the error recovery takes to the entity

| <i>action</i> | <i>Explanation</i>                                        |
|---------------|-----------------------------------------------------------|
| REMOVE        | Remove processor from service                             |
| HWBOOT        | Hardware boot (boot of processor with existing data base) |
| WMBOOT        | Warm boot (boot of processor with disk data base)         |
| CDBOOT        | Cold boot (boot of processor programs and data base)      |
| MCOND         | Put frame into maintenance condition                      |

**cc** - Hexadecimal condition code

### **cc Explanation**

|           |                                                                         |
|-----------|-------------------------------------------------------------------------|
| <b>00</b> | <b>No conditions</b>                                                    |
| <b>04</b> | <b>Subject entity is out of service</b>                                 |
| <b>0B</b> | <b>BOOT on subject entity failed</b>                                    |
| <b>46</b> | <b>Failed to boot CONF file</b>                                         |
| <b>47</b> | <b>Failed to boot DB</b>                                                |
| <b>48</b> | <b>Failed to boot journal--recurrence indicates database corruption</b> |
| <b>49</b> | <b>Failed to boot unit</b>                                              |
| <b>4C</b> | <b>Failed to boot CI</b>                                                |
| <b>51</b> | <b>General boot failure (vanilla flavor)</b>                            |
| <b>18</b> | <b>DSPI not equipped, not in service, or failed</b>                     |
| <b>4D</b> | <b>MP database not consistent with Configuration file</b>               |
| <b>52</b> | <b>Database is empty</b>                                                |
| <b>3F</b> | <b>G4 to G4.1 retrofit failed</b>                                       |
| <b>92</b> | <b>Can't mount or unmount PMEM</b>                                      |
| <b>FA</b> | <b>SSC software out of date</b>                                         |
| <b>2B</b> | <b>Database corrupt</b>                                                 |

**cc Explanation**

## **UTL,RCY,PASSWD**

### **UTILITY, RECOVERY,PASSWORD**

#### **Explanation Of Command**

This command is used to recover the frame administrator password with the password recovery card. Upon successful completion of this command, DACS II will have copied the original frame administrator's password from the password recovery card to the data base in the RAM. To ensure proper security, the administrator should immediately change his or her password using message I.38301. See Operations and Maintenance manual for procedures.

#### **Command**

[I.51081]

**UTL:FRM xy,SEQ ww:RCY,PASSWD!**

#### **Completion Message**

[O.51081]

**M hh:mm:ss xy,ww n[vv] UTL RCY PASSWD COMPL**

#### **Denial Message**

[O.51081.01]

**M hh:mm:ss xy,ww n[vv] UTL RCY PASSWD COND cc DNY**

#### **Autonomous Message**

Not applicable.

### **Explanation Of Parameters**

---

**RCY** - Recovery

**PASSWD** - Password

**cc** - Hexadecimal condition code

**cc** *Explanation*

**64** File doesn't exist/can't be accessed

**8D** DB PMEM error OP-CL-RD-WR-SK

**DD** Password recovery card is not READ-only

**91** Can't mount or unmount password recovery card

## **UTL,SCHED,PMREPT,NPC,RI,ST,NI,LV,LOCN**

### **SCHEDULE DS1 PERFORMANCE MONITORING REPORT**

#### **Explanation Of Command**

This command schedules or cancels previously scheduled reporting of DS1 performance monitoring data. This command results in periodic reporting of performance monitoring data with the REPT::PM message. Periodic performance monitoring reporting can be suspended with the INH::PMREPT command. However, performance data continues to accumulate and can be retrieved by using the UTL::QRY,<parameter> command. The inhibit command (INH::PMREPT) retains the current schedule and reporting can be resumed with the ALW::PMREPT command.

The scheduling of a PM report will be denied if it is identical to an already existing schedule. Two schedules are said to be identical if all fields match, with the exception of the NUMBER OF INTERVAL and the START TIME fields.

This command will handle NPC addressing in the input command as follows: If only a single NPC is addressed in the input command, then either a completion START TIME fields. always deny invalid commands to specifically addressed NPCs.

If a range of NPCs are addressed and the feature applies to one or more NPCs within the range, DACS II will perform the command on the NPCs in the range that support the requested feature, but skip the NPCs which do not support the requested feature. DACS II provides a variety of line termination types which support different features and can be randomly mixed within the frame. If at least one of the NPCs in the addressed range supports the requested feature, DACS II will generate a completion response for the overall addressed range; individual denial responses will not be generated for NPCs within the range which do not support the feature. If *none* of the NPCs in the addressed range support the requested feature, DACS II will generate a range denial response.

## **Command**

---

### **Nonhierarchical**

---

[I.51141]

UTL:FRM xy,SEQ ww:SCHED,PMREPT,NPC [s]abc[-[t]def],RI rrrrr,ST ssss,NI nn,\  
<parameter>,LV llllllllll,LOCN locn,AI aaaaa,TOF ttttt[-ooooo]\  
[,LK p[vv][ q[vv]]]!

### **Hierarchical**

---

[I.51141]

UTL:FRM xy,SEQ ww:SCHED,PMREPT,NPC uvmnp[-wxkqr],RI rrrrr,ST ssss,NI nn,\  
<parameter>,LV llllllllll,LOCN locn,AI aaaaa,TOF ttttt[-ooooo]\  
[,LK p[vv][ q[vv]]]!

## **Completion Message**

---

### **Nonhierarchical**

---

[O.51141]

M hh:mm:ss xy,ww n[vv] UTL SCHED PMREPT NPC [s]abc[-[t]def] 3 LN MSG:  
RI rrrrr ST ssss NI nn <parameter> LV llllllllll LOCN locn AI aaaaa  
TOF ttttt[-ooooo][ LK p[vv][ q[vv]]] COMPL

### **Hierarchical**

---

[O.51141]

M hh:mm:ss xy,ww n[vv] UTL SCHED PMREPT NPC uvmnp[-wxkqr] 3 LN MSG:  
RI rrrrr ST ssss NI nn <parameter> LV llllllllll LOCN locn AI aaaaa  
TOF ttttt[-ooooo][ LK p[vv][ q[vv]]] COMPL

## Denial Message

---

### Nonhierarchical

---

[O.51141.01]

M hh:mm:ss xy,ww n[vv] UTL SCHED PMREPT NPC [s]abc[-[t]def] 3 LN MSG:  
RI rrrrr ST ssss NI nn <parameter> LV llllllllll LOCN locn AI aaaaa  
TOF ttttt[-ooooo][ LK p[vv][ q[vv]]] COND cc DNY

### Hierarchical

---

[O.51141.01]

M hh:mm:ss xy,ww n[vv] UTL SCHED PMREPT NPC uvmnp[-wxkqr] 3 LN MSG:  
RI rrrrr ST ssss NI nn <parameter> LV llllllllll LOCN locn AI aaaaa  
TOF ttttt[-ooooo][ LK p[vv][ q[vv]]] COND cc DNY

## Autonomous Message

---

Not applicable.

## Explanation Of Parameters

---

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical starting NPC number

[t]def - The 3- or 4-digit nonhierarchical ending NPC number

The valid values are:

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |



If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical starting NPC number

**wxkqr** - Hierarchical ending NPC number

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

Unit    Module NPC  
**01-16 1-4    01-40**

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

Unit        Module        NPC  
**01-16       1-6        01-28**

**RI** - Report interval

**rrrrr** - The interval between performance monitoring reports

| <i>rrrrr</i> | <i>Explanation</i>         |
|--------------|----------------------------|
| {0001-1440}M | Report interval in minutes |
| {0001-0024}H | Report interval in hours   |
| {0001-0007}D | Report interval in days    |

**ST** - Start time

**ssss** - The starting time for the performance monitoring reporting schedule.  
If the value entered for the starting time is less than (previous to)  
the current time of day on the DACS II clock, the performance monitoring  
reports will be scheduled to begin "tomorrow".

| <i>ssss</i>    | <i>Explanation</i>                |
|----------------|-----------------------------------|
| {00-23}{00-59} | Hour of day/Minute of Hour Format |
| CURT           | Current time of day               |

**NI** - Number of intervals

**nn** - The number of intervals over which performance monitoring is reported.  
If this parameter is CT, the performance monitoring schedule remains  
in effect until the schedule is canceled. A value of zero cancels any  
performance monitor reporting that was previously scheduled.

| <i>nn</i> | <i>Explanation</i>                   |
|-----------|--------------------------------------|
| 00        | Cancel a previously scheduled report |
| {01-96}   | Finite number of scheduled reports   |
| CT        | Continuous reports until canceled    |

# **parameter**

- The parameter for which reporting is being scheduled.

| <i>parameter</i> | <i>Explanation</i>                    |
|------------------|---------------------------------------|
| CVP              | Path Coding Violations                |
| CVL              | Line Coding Violations                |
| ESP              | Path Errored Seconds                  |
| ESL              | Line Errored Seconds                  |
| SESP             | Path Severely Errored Seconds         |
| SESL             | Line Severely Errored Seconds         |
| SEFS             | Path Severely Errored Framing Seconds |
| CSSP             | Path Controlled Slip Seconds          |
| UASP             | Path Unavailable Seconds              |
| ALLPAR           | All listed parameters                 |

Note that all listed parameters are valid near-end parameters. All listed parameters except line coding violations (CVL) and line severely errored seconds (SESL) are valid far-end parameters.

**LV** - Level

**|||||**

- The discriminating level for the requested parameter. This parameter is used to restrict reported output to include only values which are above/below a defined level.

| <i>     </i>           | <i>Explanation</i>                  |
|------------------------|-------------------------------------|
| {000000000-134217728}U | Discriminating Level-Up Direction   |
| {000000000-134217728}D | Discriminating Level-Down Direction |

Up - Parameters with values equal to or greater than the "discriminating level" specified are reported.

Down - Parameters with values equal to or less than the "discriminating level" specified are reported.

**LOCN** - Location

**locn** - The location being performance monitored.

| <i>locn</i> | <i>Explanation</i> |
|-------------|--------------------|
| NEND        | Near-end           |
| FEND        | Far-end            |

**AI** - Accumulation interval

**aaaaa** - The accumulation time period for the specified parameter.

*aaaaa Explanation*

15MIN Parameter count from a 15-minute accumulator

DAILY Parameter count from a daily accumulator

**TOF** - Time offset

**ttttt** - The age of the requested data registers(s) at the reporting time, measured backwards in time from the end of last completed accumulation interval to the beginning of the requested interval.

**ooooo** - If the report interval is an integral number of accumulation intervals, this parameter may be entered as a range to specify up to four historical data registers.

*tttt,ooooo Explanation*

{0-7}{00-23}{00,15,30,45,60} Day/Hour/Minute

If the value 7 is given for day, then Hour and Minute must be zero.

To produce reports that contain historical data of completed accumulation intervals, the scheduled report times (set up with "start time" and "report interval") usually coincide with the end of accumulation intervals, and the time offset must be an integral number of accumulation intervals.

A time offset value of 00000 or any value less than the accumulation interval produces a report that contains data from the current register.

The following examples illustrate the use of time offset.

Given start time = 1205  
report interval = 0001H  
number of intervals = 03  
accumulation interval = 15MIN  
time offset = 00015-00060

The first report is generated at 12:05. Each hourly report contains the four most recent 15 minute totals of the monitored parameter. The most recent accumulation interval contains data for the period beginning 15 minutes before (time offset = 00015) the most recently completed accumulation period (12 noon). That is, the accumulation interval had a beginning time of 11:45 am, and covered between 11:45 AM and 12 noon. The range of time offsets also provides 15 minute totals from the three previous quarter hours in the report. There will be a total of three reports, one hour apart. The last report will occur at 2:05.

As a second example:

Given start time = 0015  
report interval = 0015M  
number of intervals = 96  
accumulation interval = DAILY  
time offset = 00000

The first report is generated fifteen minutes after midnight. Since the time offset is 00000, the contents of the current daily accumulator are contained in the report. The data in the first report is the total accumulation over the first 15 minutes of the day. The second report is generated 15 minutes later at 12:30 AM. The second report contains the accumulation total over the first 30 minutes of the day. Subsequent reports provide the daily accumulation total, sampled every 15 minutes throughout the day. A total of 96 reports will be generated, the last one occurring at midnight.

**LK** - Link

**p[vv]** - Up to two administrative links to which the scheduled report output will be transmitted. These parameters take the form of a physical administrative link number followed by a virtual circuit number, if applicable. The user may omit these optional parameters, specify a single link, or specify two links which will both receive all output generated by this scheduled report. If these optional parameters are omitted, the scheduled report output will by default be transmitted only to the link that the schedule command was received on. At the time of report, no PM report shall be sent to a link if it is out of service, or has screening option 1 and the schedule command was not received on that link.

**q[vv]**

**cc** - Hexadecimal condition code

**cc**    *Explanation*

- 15**    NPC is unequipped
- 26**    NPC type error
- A1**    The parameter specified does not match with the NPC type
- 0F**    Frame time is not set
- 12**    First and Last NPCs are outside unit boundary
- 13**    First and Last NPCs are outside a module boundary
- 14**    OFFSET range is invalid
- 16**    Only up to 4 historical data registers are allowed
- 17**    Command did not execute for any entity specified in the command
- 18**    Exceeded limit of reports with accum. interval of 15 min. or less
- 19**    Exceeded maximum limit of PM reports
- 1A**    Report already exists
- 28**    Scheduling report could not be found
- 88**    Report interval is not an integral number of accumulation interval

## **UTL,TOD,CFA,FAC,X,PRIM,MONDAT**

### **SET DACS II SYSTEM CLOCK OR DAILY FACILITY ALARM REPORTING TIME /\* pds \*/**

#### **Explanation Of Command**

This command is used for the following purposes:

- To set the DACS II System clock
- To set the time for the daily facility alarms report.
- To set the parameters to be reported in the daily facility alarms report.

#### **SETTING THE DACS II SYSTEM CLOCK**

To set the DACS II System clock specify only the time to which the clock is to be set (TOD).

#### **SETTING THE TIME FOR THE DAILY FACILITY ALARMS REPORT**

The facility alarms report is output daily at the default time of midnight. To output the report at a different time the user must redefine midnight. This redefined midnight is sometimes referred to as "local midnight". The "local midnight" is set by jointly specifying the time of day and the parameters to be reported. Once a "local midnight" has been set the facility alarms report will be output daily at the new "midnight".

A "local midnight" can be set for a gateway frame by specifying

TOD hrminsc and either CFA or FAC X'abcdef

OR

TOD hrminsc and either CFA or PRIM X'ghij.



## SETTING THE PARAMETERS TO BE REPORTED

The parameters are set by use of the FAC keyword using the appropriate value of abcdef from the tables below.

Gateway offices require using either both or neither of the FAC and PRIM keywords since the domestic and international sides of the machine must be treated separately.

There are six common parameters. When any of the common parameters are selected, they should be enabled in both **abcdef** and **ghij**. These common parameters are listed below.

CGA or PBA  
SLIP or CSS  
ERS or ES  
SERS or SES  
CRC  
FRER

To disable all reports specify zeros for each digit in the variable abcdef.

The CGA alarms report defaults to midnight if this command is not used to alter the report time or parameters.

### Command

---

[I.51011]

**UTL:FRM xy,SEQ ww:[TOD hrmnsc][,{CFA|FAC X'abcdef|PRIM X'ghij|MONDAT}]!**

### Completion Message

---

[O.51011]

**M hh:mm:ss xy,ww n[vv] UTL[ TOD[ MDNT] hrmnsc] \  
[ {CFA|FAC abcdef|PRIM ghij|MONDAT}] COMPL**

## **Denial Message**

---

[O.51011.01]

M hh:mm:ss xy,ww n[vv] UTL[ TOD[ MDNT] hrmnsc \  
[{CFA|FAC abcdef|PRIM ghij|MONDAT}] COND cc DNY

## **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

---

**TOD** - Time of day

**hrmnsc** - Time specification

**hr** - hours (00 through 23)

**mn** - minutes (00 through 59)

**sc** - seconds (00 through 59)

When the time of day is used with the MONDAT keyword mn and sc are restricted to certain values listed in the explanation of MONDAT.

**MONDAT** - Monitored daily time

When the MONDAT keyword is entered, "hrmnsc" is used to specify the starting time for the daily accumulation interval for PA type NPCs. In this case, "mn" is limited to 00, 15, 30 or 45, and "sc" is limited to 00. The default daily monitor starting time is midnight. At midnight DACS II will report the facility alarms and the counts for all selected daily parameters for the daily interval just ended and clear all current counts and threshold crossing alarms to start a new daily interval. The report time specified with the MONDAT keyword is not applicable to other NPC types. Likewise, the midnight report time entered without the MONDAT keyword is not applicable to PA type NPCs.

**MDNT** - Midnight

This keyword is output to indicate that midnight, the default time to output facility alarm reports, has been reset to be the time indicated by TOD hrmnsc.

**Note:** If the MONDAT keyword is entered, the MDNT keyword will not be output.

**CFA** - Carrier failure alarm

This keyword, when specified with the time of day field, indicates that the daily facility report time rather than the system time of day is being reprogrammed. The daily facility report will be output at the specified time, which defaults to midnight. See below the complete description of facility monitoring alarms that may be included in the daily facility report.

**FAC** - Facility

Request that the reporting of alarms specified by abcdef be enabled. This will cause only a subset of the daily facility report to be output.

**abcdef** - Facility performance alarm reports enable (hexadecimal)

This variable represents a six-digit hexadecimal number. Each hexadecimal digit represents 4 bits and each bit corresponds to a particular facility parameter. To enable alarm reports for a facility parameter the bit corresponding to that parameter is set to 1 using the tables below. To disable the alarm report the bit is set to 0.

**Note:** In a gateway office the FAC parameter cannot be used alone but must be used with the international parameter PRIM.

The following tables should be used to set or interpret the hexadecimal values of digit identifiers a through f.

**a** - Digit identifier (Unassigned)

**b** - Digit identifier

**b** *Facility parameter alarm report enabled*

**F** DS3 ALM, SAFE, SANE  
**E** DS3 ALM, SAFE  
**D** DS3 ALM, SANE  
**C** DS3 ALM  
**B** SAFE, SANE  
**A** SAFE  
**9** SANE  
**8** Not assigned  
**7** DS3 ALM, SAFE, SANE  
**6** DS3 ALM, SAFE  
**5** DS3 ALM, SANE  
**4** DS3 ALM  
**3** SAFE, SANE  
**2** SAFE  
**1** SANE  
**0** DS3 ALM, SAFE, SANE alarm reports disabled

DS3 ALM - DS3 alarm  
SAFE - Shelf alarm far end  
SANE - Shelf alarm near end

**c** - Digit identifier (Unassigned)

**d** - Digit identifier

**d** *Facility parameter alarm report enabled*

**F** FRER, BPV

**E** FRER

**D** BPV

**C** Not assigned

**B** FRER, BPV

**A** FRER

**9** BPV

**8** Not assigned

**7** FRER, BPV

**6** FRER

**5** BPV

**4** Not assigned

**3** FRER, BPV

**2** FRER

**1** BPV

**0** FRER, BPV alarm reports disabled

FRER - Frame errors

BPV - Bipolar violations

**e** - Digit identifier

**e** *Facility parameter alarm report enabled*

**F** CRC, COFA, SERS, ERS

**E** CRC, COFA, SERS

**D** CRC, COFA, ERS

**C** CRC, COFA

**B** CRC, SERS, ERS

**A** CRC, SERS

**9** CRC, ERS

**8** CRC

**7** COFA, SERS, ERS

**6** COFA, SERS

**5** COFA, ERS

**4** COFA

**3** SERS, ERS

**2** SERS

**1** ERS

**0** CRC, COFA, SERS, ERS alarm reports disabled

CRC - Cyclic redundancy code

COFA - Change of frame alignment

SERS - Severely errored seconds

ERS - Errored seconds

**f** - Digit identifier

**f** *Facility parameter alarm report enabled*

**F** BER, SLIP, OOF, CGA, LOS

**E** BER, SLIP, OOF

**D** BER, SLIP, CGA, LOS

**C** BER, SLIP

**B** BER, OOF, CGA, LOS

**A** BER, OOF

**9** BER, CGA, LOS

**8** BER

**7** SLIP, OOF, CGA, LOS

**6** SLIP, OOF

**5** SLIP, CGA, LOS

**4** SLIP

**3** OOF, CGA, LOS

**2** OOF

**1** CGA, LOS

**0** BER, SLIP, OOF, CGA, LOS alarm reports disabled

BER - Bit error rate

SLIP - Slip

OOF - Out of frame

CGA - Carrier group alarm

LOS - Loss of signal

Some examples of the available choices for X'abcdef are shown below:

X'00000A BER and OOF alarm reporting enabled

X'000000 alarm reports disabled for all parameters

X'000001 CGA and LOS alarm reporting enabled

X'0C0511 DS3, BPV, ERS, CGA, and LOS alarm reporting enabled

**PRIM** - Primary

Request that reporting of alarms specified by ghij be enabled. This will cause only a subset of the daily facility report to be output.

**ghij** - Primary Alarm or Parameter-count reports enable (hexadecimal)

This variable is a four-digit hexadecimal number. To enable alarm or parameter-count reports for a particular facility parameter, set the appropriate bit of ghij to 1. A bit set to 0 will disable the alarm report for the particular parameter.

There are two sets of parameters for ghij.

1. PA NPC parameters

2. PB or PC NPC parameters

**Note:** In a gateway office the PRIM parameter cannot be used alone but must be used with the domestic parameter FAC.

#### PA NPC parameters

The following tables should be used to set or interpret the hexadecimal values of digit identifiers g through j.

##### g - Digit identifier

|          |                                                |
|----------|------------------------------------------------|
| <b>g</b> | <i>Facility parameter alarm report enabled</i> |
| <b>F</b> | FEBE, FES, FSES, FUAS                          |
| <b>E</b> | FEBE, FES, FSES                                |
| <b>D</b> | FEBE, FES, FUAS                                |
| <b>C</b> | FEBE, FES                                      |
| <b>B</b> | FEBE, FSES, FUAS                               |
| <b>A</b> | FEBE, FSES                                     |
| <b>9</b> | FEBE, FUAS                                     |
| <b>8</b> | FEBE                                           |
| <b>7</b> | FES, FSES, FUAS                                |
| <b>6</b> | FES, FSES                                      |
| <b>5</b> | FES, FUAS                                      |
| <b>4</b> | FES                                            |
| <b>3</b> | FSES, FUAS                                     |
| <b>2</b> | FSES                                           |
| <b>1</b> | FUAS                                           |
| <b>0</b> | FEBE, FES, FSES, FUAS alarm reports disabled   |

|      |                                    |
|------|------------------------------------|
| FEBE | - Far end block error              |
| FES  | - Far end errored seconds          |
| FSES | - Far end severley errored seconds |
| FUAS | - Far end unavailable seconds      |



**h** - Digit identifier

**h** *Facility parameter alarm report enabled*

**F** UATC, BER, FRER, MER

**E** UATC, BER, FRER

**D** UATC, BER, MER

**C** UATC, BER

**B** UATC, FRER, MER

**A** UATC, FRER

**9** UATC, MER

**8** UATC

**7** BER, FRER, MER

**6** BER, FRER

**5** BER, MER

**4** BER

**3** FRER, MER

**2** FRER

**1** MER

**0** UATC, BER, FRER, MER alarm reports disabled

UATC - Unavailable time count

BER - Minor bit error rate; for NPCs with MBER feature

FRER - Framing errors

MER - Multiframe errors

- i** - Digit identifier
- i** *Facility parameter alarm report enabled*
  - F** CRC, CV, SES, ES
  - E** CRC, CV, SES
  - D** CRC, CV, ES
  - C** CRC, CV
  - B** CRC, SES, ES
  - A** CRC, SES
  - 9** CRC, ES
  - 8** CRC
  - 7** CV, SES, ES
  - 6** CV, SES
  - 5** CV, ES
  - 4** CV
  - 3** SES, ES
  - 2** SES
  - 1** ES
  - 0** CV, SES, ES alarm reports disabled
- CRC - CRC4 check block errors  
CV - Degraded minutes  
SES - Severely errored seconds  
ES - Errored seconds

|          |                                                |
|----------|------------------------------------------------|
| <b>j</b> | - Digit identifier                             |
| <b>j</b> | <i>Facility parameter alarm report enabled</i> |
| <b>F</b> | UAS, CSS, OFS, PBA                             |
| <b>E</b> | UAS, CSS, OFS                                  |
| <b>D</b> | UAS, CSS, PBA                                  |
| <b>C</b> | UAS, CSS                                       |
| <b>B</b> | UAS, OFS, PBA                                  |
| <b>A</b> | UAS, OFS                                       |
| <b>9</b> | UAS, PBA                                       |
| <b>8</b> | UAS                                            |
| <b>7</b> | CSS, OFS, PBA                                  |
| <b>6</b> | CSS, OFS                                       |
| <b>5</b> | CSS, PBA                                       |
| <b>4</b> | CSS                                            |
| <b>3</b> | OFS, PBA                                       |
| <b>2</b> | OFS                                            |
| <b>1</b> | PBA                                            |
| <b>0</b> | UAS, CSS, OFS, PBA alarm reports disabled      |
|          | UAS - Unavailable seconds                      |
|          | CSS - Controlled slip seconds                  |
|          | OFS - Out-of-frame seconds                     |
|          | PBA - Primary block alarms; default            |

**Note:** Enter 0 for an unassigned digit identifier

**PB or PC NPC parameters**

The following tables should be used to set or interpret the hexadecimal values of digit identifiers g through j.

- g** - Digit identifier (unassigned)
  - h** - Digit identifier
    - h** *Facility parameter alarm report enabled*
    - F** BER, FRER, MER
    - E** BER, FRER
    - D** BER, MER
    - C** BER
    - B** FRER, MER
    - A** FRER
    - 9** MER
    - 8** unassigned
    - 7** BER, FRER, MER
    - 6** BER, FRER
    - 5** BER, MER
    - 4** BER
    - 3** FRER, MER
    - 2** FRER
    - 1** MER
    - 0** BER, FRER, MER alarm reports disabled
- BER - Bit error rate  
FRER - Frame errors  
MER - Multiframe alignment errors

**i** - Digit identifier

**i** *Facility parameter alarm report enabled*

**F** CRC, DM, SERS, ERS

**E** CRC, DM, SERS

**D** CRC, DM, ERS

**C** CRC, DM

**B** CRC, SERS, ERS

**A** CRC, SERS

**9** CRC, ERS

**8** CRC

**7** DM, SERS, ERS

**6** DM, SERS

**5** DM, ERS

**4** DM

**3** SERS, ERS

**2** SERS

**1** ERS

**0** CRC, DM, SERS, ERS alarm reports disabled

CRC - Cyclic redundancy code

DM - Degraded minutes

SERS - Severely errored seconds

ERS - Errored seconds

**j** - Digit identifier

|          |                                                |
|----------|------------------------------------------------|
| <b>j</b> | <i>Facility parameter alarm report enabled</i> |
| <b>F</b> | US, SLIP, LOFA, PBA                            |
| <b>E</b> | US, SLIP, LOFA                                 |
| <b>D</b> | US, SLIP, PBA                                  |
| <b>C</b> | US, SLIP                                       |
| <b>B</b> | US, LOFA, PBA                                  |
| <b>A</b> | US, LOFA                                       |
| <b>9</b> | US, PBA                                        |
| <b>8</b> | US                                             |
| <b>7</b> | SLIP, LOFA, PBA                                |
| <b>6</b> | SLIP, LOFA                                     |
| <b>5</b> | SLIP, PBA                                      |
| <b>4</b> | SLIP                                           |
| <b>3</b> | LOFA, PBA                                      |
| <b>2</b> | LOFA                                           |
| <b>1</b> | PBA                                            |
| <b>0</b> | US, SLIP, LOFA, PBA alarm reports disabled     |
|          | US - Unavailable seconds                       |
|          | SLIP - Slip                                    |
|          | LOFA - Loss of frame alignment                 |
|          | PBA - Primary block alarms                     |

**cc** - Hexadecimal condition code

**cc** *Explanation*

|           |                                                      |
|-----------|------------------------------------------------------|
| <b>E0</b> | Bad FAC value entered                                |
| <b>04</b> | MONDAT keyword is invalid for this feature           |
| <b>48</b> | Bad PRIM X'efgh values                               |
| <b>4A</b> | PRIM keyword is invalid for this feature             |
| <b>4B</b> | The common bit(s) is(are) not set in both FAC & PRIM |
| <b>4C</b> | Both FAC and PRIM values(keywords) are required      |
| <b>D5</b> | Boot in progress, can't service request              |

## **UTL,UPGRD**

---

### **UPGRADE FRAME**

#### **Explanation Of Command**

---

This message performs a database upgrade from Release 6.1 to Release 7.0. The database, MACRO and MAP files from the old Secondary Storage Subsystem (SSS) tape will be transferred onto the SMEM card inserted in the SMEM slot on CPU2.

In order for the automated upgrade procedure to successfully complete, the Main Controller (MC) must be in maintenance condition. In addition, the Secondary Storage Controller (SSC) circuit pack must be physically inserted in the slot and the tape drive must be accessible from the MC circuit pack. Initially, the command will power-up the old SSS tape drive and at completion, the SMEM card will contain the Release 6.1 database converted to Release 7.0 form.

#### **Command**

---

[I.55731]

**UTL:[FRM xy,SEQ ww]:UPGRD!**

#### **Completion Message**

---

[O.55731]

**M hh:mm:ss xy,ww n[vv] UTL UPGRD COMPL**

#### **Denial Message**

---

[O.55731.01]

**M hh:mm:ss xy,ww n[vv] UTL UPGRD COND cc DNY**

### **Autonomous Message**

---

Not applicable.

### **Explanation Of Parameters**

---

**UPGRD** - Upgrade

**cc** - Hexadecimal condition code

**cc**    *Explanation*

|           |                                                           |
|-----------|-----------------------------------------------------------|
| <b>07</b> | Device failed to initialize                               |
| <b>0A</b> | DGN on subject entity failed                              |
| <b>84</b> | Problem occurred while accessing SMEM or unformatted SMEM |
| <b>87</b> | Old_tape is a special install tape                        |
| <b>91</b> | Can't mount or unmount SMEM                               |
| <b>F0</b> | SSC Diagnostic Failure                                    |
| <b>F5</b> | Flash Card is not present                                 |
| <b>F7</b> | Can't mount or unmount old_tape                           |
| <b>FA</b> | Bad old_tape DB generic                                   |
| <b>FB</b> | Old_tape with journal                                     |
| <b>FD</b> | Problem occurred while accessing old_tape                 |
| <b>FE</b> | Fail transfer DB from old_tape to SMEM                    |



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---

## **Release 7.0.3 Addendum**

---

This section includes the updated and new commands applicable to the DACS II system for Release 7.0.3.

## **CHG,RT,DL,ZCS,B8ZS**

CHANGE RT or DL

### **Explanation Of Command**

This command is used to change the Line and Signaling format for all the NPCs associated with the specified RT or DL. With this command it will be possible to have the type of the NPCs associated with the RT and DL of a DGA or DGP to be different. This is not a normal condition and the types will have to match before the NPCs are restored.

### **Command**

[I.38481]

CHG:FRM xy,SEQ ww:{RT|DL} ffff,{ZCS|B8ZS}!

### **Completion Message**

#### **Nonhierarchical**

[O.38481]

M hh:mm:ss xy,ww n[vv] CHG {RT|DL} ffff {ZCS|B8ZS} 3 LN MSG:  
DGA [s]aaa {ZCS|B8ZS} [DGB [s]bbb {ZCS|B8ZS}][ DGC [s]ccc {ZCS|B8ZS}] \  
[DGD [s]ddd {ZCS|B8ZS}][ DGP [s]ppp {ZCS|B8ZS}]  
COMPL

#### **Hierarchical**

[O.38481]

M hh:mm:ss xy,ww n[vv] CHG {RT|DL} ffff {ZCS|B8ZS} 3 LN MSG:  
DGA uvjab {ZCS|B8ZS} [DGB uvkcd {ZCS|B8ZS}] [DGC uvlef {ZCS|B8ZS}] \  
[DGD uvmgh {ZCS|B8ZS}][ DGP uvjpr {ZCS|B8ZS}]  
COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.38481.01]

M hh:mm:ss xy,ww n[vv] CHG {RT|DL} ffff {ZCS|B8ZS} 3 LN MSG:  
DGA [s]aaa {ZCS|B8ZS} DGB [s]bbb {ZCS|B8ZS} DGC [s]ccc {ZCS|B8ZS} \  
DGD [s]ddd {ZCS|B8ZS} DGP [s]ppp {ZCS|B8ZS}  
COND cc DNY

### **Hierarchical**

---

[O.38481.01]

M hh:mm:ss xy,ww n[vv] CHG {RT|DL} ffff {ZCS|B8ZS} 3 LN MSG:  
DGA uvjab {ZCS|B8ZS} DGB uvkcd {ZCS|B8ZS} DGC uvlef {ZCS|B8ZS} \  
DGD uvmgh {ZCS|B8ZS} DGP uvjpr {ZCS|B8ZS}  
COND cc DNY

### **Common**

---

If there is no RT or DL:

[O.33481.01]

M hh:mm:ss xy,ww n[vv] CHG {RT|DL} ffff {ZCS|B8ZS} 2 LN MSG:  
COND cc DNY

### **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

---

- RT** - SLC remote terminal
- DL** - Digital carrier line unit
- ffff** - Bank identification number (0000 through 9999)

### Line and Signaling Format Options

- ZCS** - Zero Code Suppression  
If this option is chosen the y value of the DSxyz  
will be set equal to 0.
- B8ZS** - Bipolar 8 Zeros Substitution  
If this option is chosen the y value of the DSxyz  
will be set equal to 2.

---

## **GRTH,UNIT,TYPE,CONN**

---

### **PROVISION A UNIT**

### **Explanation Of Command**

---

This command requests the provisioning of a DACS II unit.

For a Non-CEF frame this will result in the provisioning of all cross-connect and time slot interchange circuit packs. For a CEF frame this will result in the provisioning of the expanded time slot interchanger. When this request has completed, all circuit packs required by the subject unit to cross-connect to other equipped units have been provisioned.

The unit type is optionally specified in the **TYPE** field.

The unit type can be a facility terminating unit, a DS3 terminating unit, or a digital signal processing unit.

If the unit is a digital signal processing unit, its associated digital signal processing interface is also provisioned. If the unit is a DS3 facility terminating unit, both of its associated service and protection facility line interface packs, both sides of its formatter packs (side 0 and 1), and its protection multiplexer are also provisioned.

**Note:** DMB, TSI, and FMT circuit packs must be inserted into the inactive side of DACS II. Inserting circuit packs into the active side may result in transmission "hits."

### **Command**

---

For DACS II Non-CEF frames:  
[I.31211]

```
GRTH:FRM xy,SEQ ww:UNIT q[,TYPE utxyz]\  
[,CONN(a[,b[,c[,d[,e [,f]]]]))!]
```



For DACS II CEF frames:  
[I.31211]

GRTH:FRM xy,SEQ ww:UNIT [q]q[,TYPE utxyz]!

## Completion Message

---

For DACS II Non-CEF frames:

[O.31211]

M hh:mm:ss xy,ww n[vv] GRTH UNIT q {FT|DP|DT}xyz\  
[ CONN a b c d e f]

5 LN MSG:

CCB 0q 1q TOTAL TSIS tt NEW TSIS nn

sft sft sft sft sft sft sft sft sft sft sft sft  
sft sft sft sft sft sft sft sft sft sft sft sft  
sft sft sft sft sft sft sft sft sft sft sft sft EOM

M hh:mm:ss xy,ww n[vv] GRTH UNIT q {FT|DP|DT}xyz\  
[ CONN a b c d e f]

5 LN MSG:

CCB 0q 1q TOTAL TSIS tt NEW TSIS nn

sft sft sft sft sft sft sft sft sft sft sft sft  
sft sft sft sft sft sft sft sft sft sft sft sft  
sft sft sft sft sft sft sft sft sft sft sft sft EOM

M hh:mm:ss xy,ww n[vv] GRTH UNIT q {FT|DP|DT}xyz\  
[ CONN a b c d e f]

e LN MSG:

CCB 0q 1q TOTAL TSIS tt NEW TSIS nn

NEW TSIS sft sft ... sft sft  
NEW TSIS sft sft ... sft sft [COMPL]  
[FMT 0 1 FLI S P MXR P COMPL]

For DACS II CEF frames:

[O.31212]

```
M hh:mm:ss xy,ww n[vv] GRTH UNIT qq TYPE utxyz \
e LN MSG:
ETSI 0qq 1qq TOTAL ETSIS kk
0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr
0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr\
[ COMPL]
[FMT 0 1   FLI S P   MXR P COMPL]
```

**Note:** If the unit type is FT100 or DP100, the output will be a 4-line message. If the unit type is DT100, the output will be a 5-line message.

## **Denial Message**

---

[O.31211.01]

```
M hh:mm:ss xy,ww n[vv] GRTH UNIT [q]q TYPE utxyz\
{EQD uexyz|NSUP} DNY
```

[O.31211.02]

```
M hh:mm:ss xy,ww n[vv] GRTH UNIT [q]q TYPE utxyz COND cc DNY
```

## **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

---

**UNIT** - Unit

**[q]q** - Unit number (1 through 16)

**utxyz** - Unit type as submitted in the input message

**uexyz** - Type of unit already equipped as

*uexyz Explanation*

FT100 FT = Facility Terminating Unit

DP100 DP = Digital Signal Processing Unit

DT100 DT = DS3 Facility Terminating Unit

The unit type is optionally specified in the TYPE utxyz field. The unit type can be an FTxyz (Facility Terminating Unit), DTxyz (DS3 Terminating Unit), or a DPxyz (Digital Signal Processing Unit) type.

Currently, only FT100, DT100, and DP100 types are supported by DACS II.

The unit type entered must be consistent with the unit type entered for the configuration file.

If the unit is a DPxyz type, its associated DSPI (Digital Signal Processing Interface) is also provisioned.

If the unit is a DTxyz type, both of its associated Service and Protection Facility Line Interface (FLI) packs, both sides of its Formatter (FMT) packs (side 0 and 1), and its Protection Multiplexer (MXR) pack are also provisioned.

For both Non-CEF and CEF frames, if the unit type is not entered, the unit type will default to FT100.

For Non-CEF frames, the optional CONN field is used if only a partial complement of the unit's TSI circuit packs is to be provisioned. If this field is not used, all TSI circuit packs are provisioned and the unit has full connectivity with other provisioned units.

**CONN** - Connectivity

**a, b, c, d, e, f**

- Time slot interchange numbers

A partial complement of the unit's TSIs have been provisioned. (If this field is absent, all of the unit's TSIs were provisioned.)

**CCB** - Cross-connect buffer

**0q** - CCB number side 0

**1q** - CCB number side 1

0q and 1q identify the cross-connect buffer(s) provisioned. q is the unit number (see UNIT above).

**tt** - Total number of provisioned TSIs in frame (02 through 72)

**NEW** - New

**TSIS** - Time slot interchangers

**nn** - Number of TSIs provisioned by command (02 through 22)

**sft** - TSI equipped status

**s** - Service side number (0 or 1)

**f** - Equipped FROM unit number (1 through 6) if equipped  
- - Not equipped

**t** - Equipped TO unit number (1 through 6) if equipped  
- - Not equipped

**e** - Number of lines in message

Equals either 4 or 5 depending on the type of the unit provisioned.

**ETSI** - Expanded time slot interchanger

**0qq** - ETSI number side 0

**1qq** - ETSI number side 1

0qq and 1qq identify the ETSI packs provisioned by this command.  
qq is the unit number (see UNIT above).

Three dashes "---" are shown if an ETSI pack is not provisioned.

**kk** - Total number of provisioned ETSIs in frame (02 through 32)

**rr** - Unit number with the same definition as qq.

**FMT** - Formatter, sides 0 and 1 (automatically provisioned with DT100 units)

**FLI** - Facility line interface

**S** - Service FLI (automatically provisioned with DT100 units)

**FLI** - Facility line interface

**P** - Protection FLI (automatically provisioned with DT100 units)

**MXR** - Multiplexer

**P** - Protection multiplexer (automatically provisioned with DT100 units)

**EQD** - Equipped

**NSUP** - Not supported

**cc** - Hexadecimal condition code

**cc** *Explanation*

- 27** Illegal connectivity specified
- 28** Connectivity contains unequipped units
- 97** Entity can't be addressed in this configuration
- 99** Unit type (xyz) not supported
- CA** Connectivity can not be specified for CEF unit

---

## **RMV,RT,DL**

---

REMOVE RT or DL

### **Explanation Of Command**

---

This command is used to remove from service all the NPCs associated with the specified RT or DL so that the type of the NPCs can be changed using the CHG RT command I.38481. Each NPC removed will print a RMV (O.33351) message. If an NPC removal fails the error condition of the RMV NPC message(O.33351) will give the reason. This command will remove the NPCs associated with the RT or DL one at a time in the proper order. If it encounters an error removing any one of the NPCs it will not continue removing the remaining NPCs.

### **Command**

---

[I.33481]

**RMV:FRM xy,SEQ ww:{RT|DL} ffff!**

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.33481]

**M hh:mm:ss xy,ww n[vv] RMV {RT|DL} ffff 3 LN MSG:  
DGA [s]aaa OOS [DGB [s]bbb OOS] [DGC [s]ccc OOS] [DGD [s]ddd OOS] \  
[DGP [s]ppp OOS]  
COMPL**

## **Hierarchical**

---

[O.33481]

M hh:mm:ss xy,ww n[vv] RMV {RT|DL} ffff 3 LN MSG:  
DGA uvjab OOS [DGB uvkcd OOS] [DGC uvlef OOS] [DGD uvmgh OOS] \  
[DGP uvjpr OOS]  
COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.33481.01]

M hh:mm:ss xy,ww n[vv] RMV {RT|DL} ffff 3 LN MSG:  
[DGA [s]aaa {OOS|INS}][ DGB [s]bbb {OOS|INS}][ DGC [s]ccc {OOS|INS}]\  
[ DGD [s]ddd {OOS|INS}][ DGP [s]ppp {OOS|INS}]  
COND cc DNY

## **Hierarchical**

---

[O.33481.01]

M hh:mm:ss xy,ww n[vv] RMV {RT|DL} ffff 3 LN MSG:  
[DGA uvjab {OOS|INS}][ DGB uvkcd {OOS|INS}][ DGC uvlef {OOS|INS}]\  
[ DGD uvmgh {OOS|INS}][ DGP uvjpr {OOS|INS}]  
COND cc DNY

## **Common**

---

If there is no RT or DL:

[O.33481.01]

M hh:mm:ss xy,ww n[vv] RMV {RT|DL} ffff 2 LN MSG:  
COND cc DNY

## **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

---

**RT** - SLC remote terminal  
**DL** - Digital carrier line unit  
**ffff** - Bank identification number (0000 through 9999)  
**OOS** -Out of Service  
**INS** -Inservice  
**DNY** -Denied  
**DGA** -Digroup A of SLC  
**DGB** -Digroup B of SLC  
**DGC** -Digroup C of SLC  
**DGD** -Digroup D of SLC  
**DGP** -Digroup P of SLC  
**[s]aaa** -DGA NPC number  
**[s]bbb** -DGB NPC number  
**[s]ccc** -DGC NPC number  
**[s]ddd** -DGD NPC number  
**[s]ppp** -DGP NPC number  
**uvjab** -DGA NPC number  
**uvkcd** -DGB NPC number  
**uvlef** -DGC NPC number  
**uvmgh** -DGD NPC number  
**uvjpr** -DGP NPC number



## **RMV,RT,DL**

REMOVE RT or DL

### **Explanation Of Command**

This command is used to remove from service all the NPCs associated with the specified RT or DL so that the type of the NPCs can be changed using the CHG RT command I.38481. Each NPC removed will print a RMV (O.33351) message. If an NPC removal fails the error condition of the RMV NPC message(O.33351) will give the reason. This command will remove the NPCs associated with the RT or DL one at a time in the proper order. If it encounters an error removing any one of the NPCs it will not continue removing the remaining NPCs.

### **Command**

[I.33481]

**RMV:FRM xy,SEQ ww:{RT|DL} ffff!**

### **Completion Message**

#### **Nonhierarchical**

[O.33481]

**M hh:mm:ss xy,ww n[vv] RMV {RT|DL} ffff 3 LN MSG:  
DGA [s]aaa OOS [DGB [s]bbb OOS] [DGC [s]ccc OOS] [DGD [s]ddd OOS] \  
[DGP [s]ppp OOS]  
COMPL**

## **Hierarchical**

---

[O.33481]

M hh:mm:ss xy,ww n[vv] RMV {RT|DL} ffff 3 LN MSG:  
DGA uvjab OOS [DGB uvkcd OOS] [DGC uvlef OOS] [DGD uvmgh OOS] \  
[DGP uvjpr OOS]  
COMPL

## **Denial Message**

---

### **Nonhierarchical**

---

[O.33481.01]

M hh:mm:ss xy,ww n[vv] RMV {RT|DL} ffff 3 LN MSG:  
[DGA [s]aaa {OOS|INS}][ DGB [s]bbb {OOS|INS}][ DGC [s]ccc {OOS|INS}]\  
[ DGD [s]ddd {OOS|INS}][ DGP [s]ppp {OOS|INS}]  
COND cc DNY

## **Hierarchical**

---

[O.33481.01]

M hh:mm:ss xy,ww n[vv] RMV {RT|DL} ffff 3 LN MSG:  
[DGA uvjab {OOS|INS}][ DGB uvkcd {OOS|INS}][ DGC uvlef {OOS|INS}]\  
[ DGD uvmgh {OOS|INS}][ DGP uvjpr {OOS|INS}]  
COND cc DNY

## **Common**

---

If there is no RT or DL:

[O.33481.01]

M hh:mm:ss xy,ww n[vv] RMV {RT|DL} ffff 2 LN MSG:  
COND cc DNY

## **Autonomous Message**

---

Not applicable.

## **Explanation Of Parameters**

---

**RT** - SLC remote terminal  
**DL** - Digital carrier line unit  
**ffff** - Bank identification number (0000 through 9999)  
**OOS** -Out of Service  
**INS** -Inservice  
**DNY** -Denied  
**DGA** -Digroup A of SLC  
**DGB** -Digroup B of SLC  
**DGC** -Digroup C of SLC  
**DGD** -Digroup D of SLC  
**DGP** -Digroup P of SLC  
**[s]aaa** -DGA NPC number  
**[s]bbb** -DGB NPC number  
**[s]ccc** -DGC NPC number  
**[s]ddd** -DGD NPC number  
**[s]ppp** -DGP NPC number  
**uvjab** -DGA NPC number  
**uvkcd** -DGB NPC number  
**uvlef** -DGC NPC number  
**uvmgh** -DGD NPC number  
**uvjpr** -DGP NPC number

---

## **TTST,SPL,TG,NOYLW**

---

**NX64Kbit/s TWO-WAY TEST ACCESS, SPLIT**

### **Explanation Of Command**

---

This command is used to split each direction of transmission of an Nx64Kbit/s circuit that is currently under test access in monitor mode.

The optional keyword NOYLW is added to allow DACS II to disable the yellow alarm transmission while the facility is connected to a Test Group which is set to split mode via this command with NOYLW option.

**Note:** If the test-access group is connected to an unmapped Nx64Kbit/s termination, this command connects both directions of the unmapped termination to the test-access group's west bundle.

### **Command**

---

[I.23021]

**TTST:FRM xy,SEQ ww:SPL,TG mmm[,NOYLW]!**

### **Completion Message**

---

#### **Nonhierarchical**

---

[O.23021]

```
M hh:mm:ss xy,ww n[vv] TTST SPL TG mmm[ NOYLW] FROM [s]abc TO [t]ghi \
5 LN MSG:
SG g CGA(ftb)[ RDC][ CUS][ ONEWAY] {TLA s|BCAST|UMPD <tc>}
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd COMPL
```

## Hierarchical

---

[O.23021]

```
M hh:mm:ss xy,ww n[vv] TTST SPL TG mmm[ NOYLW] FROM uvmnp TO wxkqr \
5 LN MSG:
SG g CGA(ftb)[ RDC][ CUS][ ONEWAY] {TLA s|BCAST|UMPD <tc>}
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd COMPL
```

## Denial Message

---

[O.23021.01]

```
M hh:mm:ss xy,ww n[vv] TTST SPL TG mmm[ NOYLW] COND cc DNY
```

## Autonomous Message

---

Not applicable.

## Explanation Of Parameters

---

**TG** - Test-access group

**mmm** - Test-access Group number (001 through 400)

The TG is designated as in message 31421

**SPL** - Split

**NOYLW** - No Yellow Alarm Transmission

The NOYLW option is used to disable the yellow alarm transmission for the TO-end facility NPC that is in test access split mode and recognizes a Carrier Group Alarm (CGA) condition.

A command that changes the test access group from split mode to monitor mode or a command that releases the active test access group will enable the yellow alarm behavior.

**[s]abc** - 3- or 4-digit non-hierarchical FROM NPC number

**[t]ghi** - 3- or 4-digit non-hierarchical TO NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |



If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical FROM NPC number

**wxkqr** - Hierarchical TO NPC number

**uv,wx** - Unit number

**m,k** - Module number

**np,qr** - NPC number within the module

The valid values are listed below:

DE type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**ddd** - FROM Channel numbers

001 through 024

The FROM channel ddd will be '---' for circuits not involved in this test session. For unmapped TO channel(s) or a BBL without return, ddd will be '000' in the corresponding channel position(s). If TO channel is mapped to a channel 000, the circuit can only be tested as N = 1, the corresponding FROM channel ddd will be '000'.

**tc** - Trunk conditioning

For mapped circuits, <tc> will be omitted.  
For unmapped circuits, the effective <tc> will be output.

**SG** - Signaling

**g** - Signaling mode of the TG

*g*      *Explanation*

T      All channels are Transparent (TRSP)

R      One or more channels is robbed-bit or non-TRSP

**CGA** - Carrier group alarm

**PBA** - Primary block alarm

**ftb** - CGA or PBA state

f - FROM CGA or PBA state

*f Explanation*

F FROM NPC is in CGA or PBA

0 FROM NPC is not in CGA or PBA

t - TO CGA or PBA state

*t Explanation*

T TO NPC is in CGA or PBA

0 TO NPC is not in CGA or PBA

b - TG digroup CGA or PBA state

*b Explanation*

E East-bundle NPCTG in CGA or PBA

W West-bundle NPCTG in CGA or PBA

B NPCTG(s) supporting both bundles in CGA or PBA

0 NPCTG(s) not in CGA or PBA

**RDC** - Red circuit

The cross-connection tested is a red circuit.

**CUS** - Customer

The cross-connection tested is a customer-controlled circuit.

**TLA** - Terminate and leave active

**s** - Termination state of the circuit

*s Explanation*

R All channels are released

F One or more FROM channel is terminated

T One or more TO channel is terminated

B One or more of FROM and TO channels are terminated

**COND cc**

- Condition code

**cc** - Hexadecimal condition code

**cc** *Explanation*

**5A** NPC not in service or failed

**5E** invalid test access mode

## **UTL, QRY, TGS**

---

### **UTILITY QUERY TEST-ACCESS GROUP**

### **Explanation Of Command**

---

This message is used to get a listing of one or a range of Nx64Kbit/s test-access groups (TGs). To retrieve a listing of ALL test-access groups specify the maximum range (1-400).

### **Command**

---

[I.53081]

UTL:FRM xy,SEQ ww:QRY,TGS mmm[-nnn]!

### **Completion Message**

---

### **Nonhierarchical**

---

[O.53081]

M hh:mm:ss xy,ww n[vv] UTL QRY TGS mmm[-nnn] p LN MSG:  
TG mmm, rrr, [s]abceee, sss, [t]defwww, NN, <mode>  
TG mmm, rrr, [s]abceee, sss, [t]defwww, NN, <mode>  
TG mmm, rrr, [s]abceee, sss, [t]defwww, NN, <mode>  
TG nnn, rrr, [s]abceee, sss, [t]defwww, NN, <mode> {EOM|COMPL}

or

M hh:mm:ss xy,ww n[vv] UTL QRY TGS mmm[-kkk] UEQD {EOM|COMPL}

## **Hierarchical**

[O.53081]

M hh:mm:ss xy,ww n[vv] UTL QRY TGS mmm[-nnn] p LN MSG:  
TG mmm, rrr, uvmnpeee, sss, wxkqrwww, NN, <mode>  
TG mmm, rrr, uvmnpeee, sss, wxkqrwww, NN, <mode>  
TG mmm, rrr, uvmnpeee, sss, wxkqrwww, NN, <mode>  
TG nnn, rrr, uvmnpeee, sss, wxkqrwww, NN, <mode> {EOM|COMPL}

or

M hh:mm:ss xy,ww n[vv] UTL QRY TGS mmm[-kkk] UEQD {EOM|COMPL}

## **Denial Message**

[O.53081.01]

M hh:mm:ss xy,ww n[vv] UTL QRY TGS mmm[-nnn] COND cc DNY

## **Autonomous Message**

Not applicable.

## **Explanation Of Parameters**

**TG** - Test-access group

**mmm** - Test-access group number (001 through 400)

**nnn** - Test-access group number specifying the end of a TG range (002 through 400)

**NPCTG** - NPC (for) test group

**rrr** - NPCTG number supporting the east bundle (001 through 400)

**sss** - NPCTG number supporting the west bundle, may be same as rrr

**[s]abc**  
- 3- or 4-digit non-hierarchical NPC number designated as NPCTG rrr

**[t]def**  
- 3- or 4-digit non-hierarchical NPC number designated as NPCTG sss

If NPC numbers are expressed in three digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |
| <b>16A-16H</b>               | <b>32A-32H</b>               | <b>48A-48H</b>               | <b>64A-64H</b>               | <b>80A-80H</b>               | <b>96A-96H</b>               |

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

If NPC numbers are expressed in three digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                    | Unit<br>2                    | Unit<br>3                    | Unit<br>4                    | Unit<br>5                    | Unit<br>6                    |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>NPC</b><br><b>001-160</b> | <b>NPC</b><br><b>161-320</b> | <b>NPC</b><br><b>321-480</b> | <b>NPC</b><br><b>481-640</b> | <b>NPC</b><br><b>641-800</b> | <b>NPC</b><br><b>801-960</b> |



If NPC numbers are expressed in four digits, the valid values are:

DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1                | Unit<br>2                | Unit<br>3                | Unit<br>4                |
|--------------------------|--------------------------|--------------------------|--------------------------|
| <b>NPC<br/>0001-0160</b> | <b>NPC<br/>0161-0320</b> | <b>NPC<br/>0321-0480</b> | <b>NPC<br/>0481-0640</b> |
| Unit<br>5                | Unit<br>6                | Unit<br>7                | Unit<br>8                |
| <b>NPC<br/>0641-0800</b> | <b>NPC<br/>0801-0960</b> | <b>NPC<br/>0961-1120</b> | <b>NPC<br/>1121-1280</b> |
| Unit<br>9                | Unit<br>10               | Unit<br>11               | Unit<br>12               |
| <b>NPC<br/>1281-1440</b> | <b>NPC<br/>1441-1600</b> | <b>NPC<br/>1601-1760</b> | <b>NPC<br/>1761-1920</b> |
| Unit<br>13               | Unit<br>14               | Unit<br>15               | Unit<br>16               |
| <b>NPC<br/>1921-2080</b> | <b>NPC<br/>2081-2240</b> | <b>NPC<br/>2241-2400</b> | <b>NPC<br/>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                          | Unit<br>2                          | Unit<br>3                          | Unit<br>4                          | Unit<br>5                          | Unit<br>6                          |
|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| <b>NPC<br/>001-160<br/>16A-16H</b> | <b>NPC<br/>161-320<br/>32A-32H</b> | <b>NPC<br/>321-480<br/>48A-48H</b> | <b>NPC<br/>481-640<br/>64A-64H</b> | <b>NPC<br/>641-800<br/>80A-80H</b> | <b>NPC<br/>801-960<br/>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number  
Unit Type DT (DS3U)

| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

**uvmnp** - Hierarchical NPC number designated as NPCTG rrr

**wxkqr** - Hierarchical NPC number designated as NPCTG sss

**uv, wx** - Unit number

**m, k** - Module number

**np, qr** - NPC number within the module

The valid values are listed below:

DE type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TE NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

DA type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-4</b> | <b>01-40</b> |

TA NPC numbers listed by unit, module, and NPC Number  
Unit Type DT (DS3U)

| Unit         | Module     | NPC          |
|--------------|------------|--------------|
| <b>01-16</b> | <b>1-6</b> | <b>01-28</b> |

**eee** - Starting channel for east bundle

**www** - Starting channel for west bundle

**mode** - Test access mode

| <i>mode</i> | <i>Explanation</i>                            |
|-------------|-----------------------------------------------|
| MON         | Monitor                                       |
| SPL         | Split                                         |
| HUB         | Hub                                           |
| LPD         | Looped                                        |
| IDLE        | Idle                                          |
| SPLNOY      | Split with yellow alarm transmission disabled |

**UEQD** - Unequipped

**NN** - TG width (01 through 24)

**cc** - Hexadecimal condition code

**cc** *Explanation*

**63** None of the designated TG(s) are equipped

## **UTL, QRY, TO**

### **QUERY DESTINATION CROSS-CONNECT**

#### **Explanation Of Command**

This command requests circuit provisioning information associated with the specified To-direction termination(s). The output messages generated depend upon:

- Whether or not the termination is assigned,
- Whether or not the termination is a test port termination,
- The type of network processing circuit for this termination,
- The far-end to which the termination is mapped (if any).

For this utility command, DACS II terminations can be divided into two categories:

- Multipoint termination, which is a multipoint circuit on a real digital multipoint bridge (DMB) in the digital signaling processing unit (DSPU), or in virtual network processing circuits.
- All other terminations.

If the network processing circuit (NPC) number specified in the command is the number of a remote terminal (DL) digroup currently under protection by the protection digroup (DGP), the execution of the command will be completed and DGP with its associated NPC number appears on the output message.

For a SLC® carrier denial message, the following appears on output: the bank identification number, operation mode, and digroup A NPC number for that remote terminal.

## **Command**

---

### **Nonhierarchical**

---

[I.52041]

UTL:[FRM xy,SEQ ww]:QRY,TO [s]abcddd[-eee]!

### **Hierarchical**

---

[I.52041]

UTL:[FRM xy,SEQ ww]:QRY,TO uvmpddd[-eee]!

## **Completion Message**

### **Nonhierarchical**

[O.52041]

M hh:mm:ss xy,ww n[vv] UTL QRY TO [s]abckkk TYPE mnxyz[ DGP [t]mno]\  
e LN MSG:

[<nonhierarchical\_PDS\_data\_line>]

[<nonhierarchical\_PDS\_data\_line>]

[<nonhierarchical\_PDS\_data\_line>]

<nonhierarchical\_PDS\_data\_line> {EOM|COMPL}

.

.

.

[M hh:mm:ss xy,ww n[vv] UTL QRY TO [s]abclll TYPE mnxyz[ DGP [t]mno]\  
e LN MSG:

[<nonhierarchical\_PDS\_data\_line>]

[<nonhierarchical\_PDS\_data\_line>]

[<nonhierarchical\_PDS\_data\_line>]

<nonhierarchical\_PDS\_data\_line> COMPL]

**nonhierarchical\_PDS\_data\_line** may take on the following forms:

Format 1 Data Line: For One-Way, Two-Way, and Broadcast Cross-Connections

[t]defiii ppqqq <tc>

[AIS][ CUS][ RDC][ {UTST {TP kk|TG mmm}|ROLL}][ {ONEWAY|BCAST}]\

[ TLA s][ trnk [r]adg ts]

Format 2 Data Line: For DMB to non-DMB Cross-Connections

[t]defiii ppqqq fmd,tmd snn,smm nn ee <tc>

[CUS][ RDC][ {UTST TP kk|ROLL}][ ONEWAY][ NTR r][ TLA s]

Format 2a Data Line: For VI to non-VI Cross-Connections

[t]defiii ppqqq fmd,tmd <tc>

[CUS][ RDC][ {UTST TP kk|ROLL}][ ONEWAY][ TLA s]

Format 3 Data Line: For DMB to DMB Cross-Connections

[t]defiii ppqqq fmd, tmd snn, smm vv ww spp, sqq tt uu <tc>  
[CUS][ RDC][ UTST TP kk][ NTR r][ TLA s]

Format 4 Data Line: Test Access to a Cross-Connection or Unmapped Termination

{TP kk|TG mmm} <tsm> l[vv] <tc> p [s]ghijjj q [t]jklenn  
[CUS][ RDC][ {ONEWAY|BCAST}][ NTR r][ TLA s]

Format 5 Data Line: For Subrate Cross-Connections

[ - ]-SECH- TRSP MUX

Format 6 Data Line: For Subrate Cross-Connections involving test access

TP kk <tsm> l[vv] <accpoint>[ TLA s]

Format 7 Data Line: For TS0 to non-TS0 Cross-Connections

Not applicable.

Format 8 Data Line: For E1 or T1 to SP Cross-connection

[t]defiii ppqqq trnk  
[{UTST {TP kk|TG mmm}|ROLL}][ TLA s]

**Note:** Formats 1 through 4 and Format 8 data lines are output as either one or two lines. The second line is output only if any of its optional fields are present.

[O.52042]

M hh:mm:ss xy, ww n[vv] UTL QRY TO [s]abchhh TYPE mnxyz 2 LN MSG:  
UASGN[ <tc> DCC][ CUS][ UTST {TP kk|TG mmm}][ cc] {EOM|COMPL}

## Hierarchical

[O.52041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmnpkkk TYPE mnxyz\  
[ DGP feigh] e LN MSG:  
[<hierarchical_PDS_data_line>]  
[<hierarchical_PDS_data_line>]  
[<hierarchical_PDS_data_line>]  
<hierarchical_PDS_data_line> {EOM|COMPL}  
.  
.  
.  
[M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmnplll TYPE mnxyz\  
[ DGP feigh] e LN MSG:  
[<hierarchical_PDS_data_line>]  
[<hierarchical_PDS_data_line>]  
[<hierarchical_PDS_data_line>]  
<hierarchical_PDS_data_line> COMPL]
```

**hierarchical\_PDS\_data\_line** may take on the following forms:

Format 1 Data Line: For One-Way, Two-Way, and Broadcast Cross-Connections

```
wxkqriii ppqqq <tc>  
[AIS][ CUS][ RDC][ {UTST {TP kk|TG mmm}|ROLL}][ {ONEWAY|BCAST}][ TLA s]\  
[ trnk klafg ts]
```

Format 2 Data Line: For DMB to non-DMB Cross-Connections

```
wxkqriii ppqqq fmd,tmd snn,smm nn ee <tc>  
[CUS][ RDC][ {UTST TP kk|ROLL}][ ONEWAY][ NTR r][ TLA s]
```

Format 2a Data Line: For VI to non-VI Cross-Connections

```
wxkqriii ppqqq fmd,tmd <tc>  
[CUS][ RDC][ {UTST TP kk|ROLL}][ ONEWAY][ TLA s]
```

Format 3 Data Line: For DMB to DMB Cross-Connections

```
wxkqriii ppqqq fmd,tmd snn,smm vv ww spp,sqq tt uu <tc>  
[CUS][ RDC][ UTST TP kk][ NTR r][ TLA s]
```



Format 4 Data Line: Test Access to a Cross-Connection or Unmapped Termination

{TP kk|TG mmm} <tsm> l[vv] <tc> p edhfgjjj q opjstnnn  
[CUS][ RDC][ {ONEWAY|BCAST}][ NTR r][ TLA s]

Format 5 Data Line: For Subrate Cross-Connections

--SECH-- TRSP MUX

Format 6 Data Line: For Subrate Cross-Connections involving test access

TP kk <tsm> l[vv] <accpoint>[ TLA s]

Format 7 Data Line: For TS0 to non-TS0 Cross-Connections

Not applicable.

Format 8 Data Line: For E1 or T1 to SP Cross-connection

wxkqriii ppqqq trnk  
[{UTST {TP kk|TG mmm}|ROLL}][ TLA s]

**Note:** Formats 1 through 4 and Format 8 data lines are output as either one or two lines.  
The second line is output only if any of its optional fields are present.

[O.52042]

M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmnphhh TYPE mnxyz 2 LN MSG:  
UASGN[ <tc> DCC][ CUS][ UTST {TP kk|TG mmm}][ cc] {EOM|COMPL}

## **Denial Message**

---

### **Nonhierarchical**

---

[O.52041.01]

M hh:mm:ss xy,ww n[vv] UTL QRY TO [s]abcddd[-eee] TYPE ----- UEQD DNY

[O.52041.02]

M hh:mm:ss xy,ww n[vv] UTL QRY TO [s]abcddd[-eee] TYPE mnxyz RNGIE DNY

[O.52041.03]

M hh:mm:ss xy,ww n[vv] UTL QRY TO [s]abcddd[-eee]\  
[ {RT|DL} ffff MD g[g] [t]hij] COND cc DNY

## Hierarchical

[O.52041.01]

M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmnpddd[-eee] TYPE ----- UEQD DNY

[O.52041.02]

M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmnpddd[-eee] TYPE mnxyz RNGIE DNY

[O.52041.03]

M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmnpddd[-eee]\  
[ {RT|DL} ffff MD g[g] hhijj] COND cc DNY

## Autonomous Message

Not applicable.

## Explanation Of Parameters

**TO** - To

**[s]abc** - The 3- or 4-digit nonhierarchical NPC number

If NPC numbers are expressed in three digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-160</b> | <b>161-320</b> | <b>321-480</b> | <b>481-640</b> | <b>641-800</b> | <b>801-960</b> |

If NPC numbers are expressed in four digits, the valid values are:

DE, DS and DA type NPC numbers listed by unit number, Unit Type FT (FTU)

|                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Unit<br>1                      | Unit<br>2                      | Unit<br>3                      | Unit<br>4                      |
| <b>NPC</b><br><b>0001-0160</b> | <b>NPC</b><br><b>0161-0320</b> | <b>NPC</b><br><b>0321-0480</b> | <b>NPC</b><br><b>0481-0640</b> |
| Unit<br>5                      | Unit<br>6                      | Unit<br>7                      | Unit<br>8                      |
| <b>NPC</b><br><b>0641-0800</b> | <b>NPC</b><br><b>0801-0960</b> | <b>NPC</b><br><b>0961-1120</b> | <b>NPC</b><br><b>1121-1280</b> |
| Unit<br>9                      | Unit<br>10                     | Unit<br>11                     | Unit<br>12                     |
| <b>NPC</b><br><b>1281-1440</b> | <b>NPC</b><br><b>1441-1600</b> | <b>NPC</b><br><b>1601-1760</b> | <b>NPC</b><br><b>1761-1920</b> |
| Unit<br>13                     | Unit<br>14                     | Unit<br>15                     | Unit<br>16                     |
| <b>NPC</b><br><b>1921-2080</b> | <b>NPC</b><br><b>2081-2240</b> | <b>NPC</b><br><b>2241-2400</b> | <b>NPC</b><br><b>2401-2560</b> |

If NPC numbers are expressed in three digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                |                                                |                                                |                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Unit<br>1                                      | Unit<br>2                                      | Unit<br>3                                      | Unit<br>4                                      | Unit<br>5                                      | Unit<br>6                                      |
| <b>NPC</b><br><b>001-160</b><br><b>16A-16H</b> | <b>NPC</b><br><b>161-320</b><br><b>32A-32H</b> | <b>NPC</b><br><b>321-480</b><br><b>48A-48H</b> | <b>NPC</b><br><b>481-640</b><br><b>64A-64H</b> | <b>NPC</b><br><b>641-800</b><br><b>80A-80H</b> | <b>NPC</b><br><b>801-960</b><br><b>96A-96H</b> |

If NPC numbers are expressed in four digits, the valid values are:

TE and TA type NPC numbers listed by unit number, Unit Type DT (DS3U)

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>1                                          | Unit<br>2                                          | Unit<br>3                                          | Unit<br>4                                          |
| <b>NPC</b><br><b>0001-0160</b><br><b>016A-016H</b> | <b>NPC</b><br><b>0161-0320</b><br><b>032A-032H</b> | <b>NPC</b><br><b>0321-0480</b><br><b>048A-048H</b> | <b>NPC</b><br><b>0481-0640</b><br><b>064A-064H</b> |

|                                                    |                                                    |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Unit<br>5                                          | Unit<br>6                                          | Unit<br>7                                          | Unit<br>8                                          |
| <b>NPC</b><br><b>0641-0800</b><br><b>080A-080H</b> | <b>NPC</b><br><b>0801-0960</b><br><b>096A-096H</b> | <b>NPC</b><br><b>0961-1120</b><br><b>112A-112H</b> | <b>NPC</b><br><b>1121-1280</b><br><b>128A-128H</b> |
| Unit<br>9                                          | Unit<br>10                                         | Unit<br>11                                         | Unit<br>12                                         |
| <b>NPC</b><br><b>1281-1440</b><br><b>144A-144H</b> | <b>NPC</b><br><b>1441-1600</b><br><b>160A-160H</b> | <b>NPC</b><br><b>1601-1760</b><br><b>176A-176H</b> | <b>NPC</b><br><b>1761-1920</b><br><b>192A-192H</b> |
| Unit<br>13                                         | Unit<br>14                                         | Unit<br>15                                         | Unit<br>16                                         |
| <b>NPC</b><br><b>1921-2080</b><br><b>208A-208H</b> | <b>NPC</b><br><b>2081-2240</b><br><b>224A-224H</b> | <b>NPC</b><br><b>2241-2400</b><br><b>240A-240H</b> | <b>NPC</b><br><b>2401-2560</b><br><b>256A-256H</b> |

- ddd** - Beginning range channel or conference number  
**eee** - End range channel or conference number  
**kkk** - Mid-range channel or conference number  
**lll** - Mid-range channel or conference number  
**hhh** - Typical midrange channel or conference number

Valid values are given below

Channel numbers  
001 through 024

|         |                                                             |
|---------|-------------------------------------------------------------|
| 001-047 | Odd only (SLC 96® Carrier, Mode 3, DGA)                     |
| 049-095 | Odd only (SLC 96 Carrier, Mode 3, DGC)                      |
| 001-024 | Odd and Even (SLC 96 Carrier, Mode 1, DGA)                  |
| 025-048 | Odd and Even (SLC 96 Carrier, Mode 1, DGB)                  |
| 049-072 | Odd and Even (SLC 96 Carrier, Mode 1, DGC)                  |
| 073-096 | Odd and Even (SLC 96 Carrier, Mode 1, DGD)                  |
| 001-024 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGA) |
| 025-048 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGB) |
| 049-072 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGC) |
| 073-096 | Odd and Even (SLC Series 5 Carrier, Feature Package C, DGD) |

Conference numbers  
001-500 (Virtual NPC)  
001-085 (MB NPC)

**UASGN** - Unassigned

**DCC** - Disconnect code

**tc** - Trunk conditioning

Represents the desired cross-connected signaling and insertion word applied when a failure occurs. A trunk conditioning specification consists of a combination of a signaling specification followed by an insertion word (IW) specification.

Valid values are listed below:

| <b>tc</b>                  | <i>signaling modes</i> |
|----------------------------|------------------------|
| <b>TC(ijkl,mnop) TRB</b>   | <b>2-way 4-state</b>   |
| <b>TC(ijkl,mnop) IW pq</b> | <b>2-way 4-state</b>   |
| <b>TC(----,mnop) TRB</b>   | <b>1-way 4-state</b>   |
| <b>TC(----,mnop) IW pq</b> | <b>1-way 4-state</b>   |
| <b>TC(ab,cd) TRB</b>       | <b>2-way 16-state</b>  |
| <b>TC(ab,cd) IW pq</b>     | <b>2-way 16-state</b>  |
| <b>TC(--,cd) TRB</b>       | <b>1-way 16-state</b>  |
| <b>TC(--,cd) IW pq</b>     | <b>1-way 16-state</b>  |
| <b>TRSP IW pq</b>          |                        |
| <b>TRSP TRB</b>            |                        |
| <b>TRSP</b>                |                        |

**TRB** - Trouble

**MUX** - Multiplexer out of sync

**TRSP** - Transparent

**RT** - Remote terminal

**DL** - Data link

**ffff** - SLC® remote terminal (RT) or digital carrier line unit (DCLU) bank identification number (0000 through 9999)

**MD** - Mode

**g[g]** - Mode of operation of the RT or DCLU

**g[g]** *Explanation*

- 1** SLC 96 Carrier Mode 1
- 3** SLC 96 Carrier Mode 3
- C** SLC Series 5 Carrier Feature Package C (FPC)

**AIS** - Alarm indication signal  
DS1 range cross-connection with AIS specifications

**accpoint**

- Access point under test

**accpoint**      *Explanation*

**[s]abchhh**      The multiplexed DS0B signal.

**[s]abchhh/ee**      The DS0A signal or customer ee data stream only for a DS0B signal.

**MPTM [s]abchhh/ee MJU nnnn [BRi]**

The multipoint master of the circuit [s]abchhh/ee and the leg of MJU nnnn which is under test.  
If only "MJU nnnn" is specified, the control leg of MJU nnnn is under test. If "BRi" is specified, branch i of MJU nnnn is under test.

nnnn      (0000 through 9999)

i          (1 through 4)

**DGP** - Digroup P (protection digroup, SLC carrier bank)

**[t]mno**

- The 3- or 4-digit DGP nonhierarchical NPC number

**[t]hij**

- The 3- or 4-digit DGA (digroup A) nonhierarchical NPC number

**feigh** - DGP hierarchical NPC number

**hhijj** - DGA (digroup A) hierarchical NPC number

**[t]defiii**

- Nonhierarchical FROM termination

**[t]def**          - The 3- or 4-digit nonhierarchical NPC number

Valid values are identical to those for [s]abc

**iii**      - Channel number

Valid values are identical to those for ddd

**ppqqq** - NPC type of the FROM termination

To interpret values of ppqqq see the table following mnxyz below.

**Note:** If ppqqq = MB100 or VI100,  
then FROM is a multipoint termination and TO is not.

**TYPE** - Type

**mnxyz** - NPC Type

| <b>mn</b> | <i>Explanation</i> |
|-----------|--------------------|
|-----------|--------------------|

|    |                               |
|----|-------------------------------|
| DA | FTU ANSI NPC type             |
| DE | Enhanced digroup NPC          |
| DS | SLC® terminating digroup NPC  |
| MB | Digital multipoint bridge NPC |
| TA | DS3U ANSI NPC type            |
| TE | DS3U enhanced NPC             |
| TI | DS3U interface unit NPC       |
| VI | Virtual NPC                   |

**xyz** - Multiframe, line and signaling, and channel numbering formats

DA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|            |                                               |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

**y** *Explanation*

- 0** ZCS - Zero code suppression
- 1\*** NZCS - No zero code suppression
- 2\*** B8ZS - Bipolar with 8 zero substitution
- 3** Not assigned
- 4** ZCS/DMI - Zero code suppression/DMI signaling
- 5** NZCS/DMI - No zero code suppression/DMI signaling
- 6** B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling
- 7-9** Not assigned

\* Only options 1 and 2 are applicable to DA-type clear-DS1 NPC.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

**z** - Channel numbering format

**z** *Explanation*

- 0** D4 channel bank channel numbering
- 1** D2 channel bank channel numbering
- 2** D1D channel bank channel numbering
- 3-8** Not assigned
- 9** Unchannelized 193-bit Clear DS1 Cross-connection

DA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a DA NPC with both a valid framing format (D4, ESF, T1DM) using the x field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the z field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the DA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II FTU, the NPC must be provisioned as NPC type **DE9y9**.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the DA NPC type. If ZBTSI is desired on an NPC in a DACS II FTU, the NPC must be provisioned as a DE NPC type with its y option selecting ZBTSI (**DEx3z**).



DE-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | Not assigned                                     |
| <b>1</b>   | D4                                               |
| <b>2</b>   | ESF - Voice                                      |
| <b>3</b>   | ESF - Data                                       |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24)    |
| <b>5-7</b> | Not assigned                                     |
| <b>8</b>   | Ericsson Cellular format                         |
| <b>9</b>   | No framing format, transparent (TRSP), clear-DS1 |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                        |
|------------|-----------------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                               |
| <b>1*</b>  | NZCS - No zero code suppression                           |
| <b>2*</b>  | B8ZS - Bipolar with 8 zero substitution                   |
| <b>3†</b>  | ZBTSI - Zero-bit time-slot interchanger                   |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling             |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling         |
| <b>6</b>   | B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling |
| <b>7-9</b> | Not assigned                                              |

\* Only options 1 and 2 are applicable to DE-type clear-DS1 NPC.

† Only valid with ESF (x = 2 or 3)

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                     |
|------------|----------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering      |
| <b>1</b>   | D2 channel bank channel numbering      |
| <b>2</b>   | D1D channel bank channel numbering     |
| <b>3-8</b> | Not assigned                           |
| <b>9</b>   | No channel numbering format, clear-DS1 |

DS-type xyz fields

**x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>               |
|------------|----------------------------------|
| <b>0</b>   | Not assigned                     |
| <b>1</b>   | D4                               |
| <b>2</b>   | ESF - Voice                      |
| <b>3</b>   | Not assigned                     |
| <b>4</b>   | Not assigned                     |
| <b>5</b>   | Not assigned                     |
| <b>6</b>   | SLC® 96 carrier Fs               |
| <b>7</b>   | SLC 5 carrier ESF with data link |
| <b>8-9</b> | Not assigned                     |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                      |
|------------|-----------------------------------------|
| <b>0</b>   | Zero code suppression (ZCS)             |
| <b>1</b>   | No zero code suppression (NZCS)         |
| <b>2</b>   | Bipolar with 8 zero substitution (B8ZS) |
| <b>3-9</b> | Not assigned                            |

**z** - Counting sequence format

| <b>z</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | SLC 96 carrier Mode III D4 counting sequence  |
| <b>1</b>   | SLC 96 carrier Mode III D1D counting sequence |
| <b>2</b>   | SLC 96 carrier Mode I D1D counting sequence   |
| <b>3</b>   | SLC Series 5 carrier D4 counting sequence     |
| <b>4-9</b> | Not assigned                                  |

MB-type xyz fields

**x** - Fixed at 1

**y** - Fixed at 0

**z** - Fixed at 0

## TA-type xyz fields

**x** - Multiframe format for the digroup

| <b>x</b>   | <i>Explanation</i>                            |
|------------|-----------------------------------------------|
| <b>0</b>   | Not assigned                                  |
| <b>1</b>   | D4                                            |
| <b>2</b>   | ESF - Voice                                   |
| <b>3</b>   | ESF - Data                                    |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24) |
| <b>5-7</b> | Not assigned                                  |
| <b>8</b>   | Ericsson Cellular format                      |
| <b>9</b>   | Not assigned                                  |

**y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                |
|------------|---------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                       |
| <b>1*</b>  | NZCS - No zero code suppression                   |
| <b>2</b>   | Not assigned                                      |
| <b>3</b>   | Not assigned                                      |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling     |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling |
| <b>6-9</b> | Not assigned                                      |

\* Only option 1 is applicable to TA-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).**z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering                |
| <b>1</b>   | D2 channel bank channel numbering                |
| <b>2</b>   | D1D channel bank channel numbering               |
| <b>3-8</b> | Not assigned                                     |
| <b>9</b>   | Unchannelized 193-bit Clear DS1 Cross-connection |

TA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a TA NPC with both a valid framing format (D4,ESF,T1DM) using the **x** field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the **z** field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the TA NPC type. If an unframed Clear DS1

cross-connection is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as NPC type TE919.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the TA NPC type. If ZBTSI is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as a TE NPC type with its **y** option selecting ZBTSI (**TEx3z**).

#### TE-type xyz fields

##### **x** - Multiframe format

| <b>x</b>   | <i>Explanation</i>                               |
|------------|--------------------------------------------------|
| <b>0</b>   | Not assigned                                     |
| <b>1</b>   | D4                                               |
| <b>2</b>   | ESF - Voice                                      |
| <b>3</b>   | ESF - Data                                       |
| <b>4</b>   | DDST (T1DM - R bit connection via channel 24)    |
| <b>5-7</b> | Not assigned                                     |
| <b>8</b>   | Ericsson Cellular format                         |
| <b>9</b>   | No framing format, transparent (TRSP), clear-DS1 |

##### **y** - Line and signaling format

| <b>y</b>   | <i>Explanation</i>                                |
|------------|---------------------------------------------------|
| <b>0</b>   | ZCS - Zero code suppression                       |
| <b>1*</b>  | NZCS - No zero code suppression                   |
| <b>2</b>   | Not assigned                                      |
| <b>3</b>   | Not assigned                                      |
| <b>4</b>   | ZCS/DMI - Zero code suppression/DMI signaling     |
| <b>5</b>   | NZCS/DMI - No zero code suppression/DMI signaling |
| <b>6-9</b> | Not assigned                                      |

\* Only option 1 is applicable to TE-type clear-DS1 NPCs.

**Note:** DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

##### **z** - Channel numbering format

| <b>z</b>   | <i>Explanation</i>                     |
|------------|----------------------------------------|
| <b>0</b>   | D4 channel bank channel numbering      |
| <b>1</b>   | D2 channel bank channel numbering      |
| <b>2</b>   | D1D channel bank channel numbering     |
| <b>3-8</b> | Not assigned                           |
| <b>9</b>   | No channel numbering format, clear-DS1 |

VI-type xyz fields

**x** - Fixed at 1

**y** - Fixed at 0

**z** - Fixed at 0

**e** - Number of lines in the message segment

**SECH** - Subrate establish channel

**CUS** - Customer

The circuit is a customer controlled circuit

**RDC** - Red circuit

The circuit is a red circuit

**UTST** - Under test

The circuit is under test

**ONEWAY** - One-way

The circuit is a one-way connection

**BCAST** - Broadcast

The circuit is a broadcast-type connection

**ROLL** - Roll

Bridged leg from Roll procedure

**TLA** - Terminate and leave active

**s** - Terminate and leave state

**s** *state*

**F** FROM terminated

**T** TO terminated

**B** BOTH terminated

**trnk** - Trunk type

Used only for custom E1 or T1 signaling conversion applications.

**trnk** *Explanation*

**E1DP** E1 Originated with DP Dialing  
**E1ND** E1 Originated without DP Dialing  
**T1DP** T1 Originated with DP Dialing  
**T1ND** T1 Originated without DP Dialing

**[r]adg**

- Nonhierarchical signaling conversion NPC number

**Note:** Only ODD NPC numbers are valid in the tables listed below. The even numbered NPC is not available for any other NPC type.

If NPC numbers are expressed in three digits, the valid values are:

SP type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1      | Unit<br>2      | Unit<br>3      | Unit<br>4      | Unit<br>5      | Unit<br>6      |
|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     | <b>NPC</b>     |
| <b>001-031</b> | <b>161-191</b> | <b>321-351</b> | <b>481-511</b> | <b>641-671</b> | <b>801-831</b> |
| <b>041-071</b> | <b>201-231</b> | <b>361-391</b> | <b>521-551</b> | <b>681-711</b> | <b>841-871</b> |
| <b>081-111</b> | <b>241-271</b> | <b>401-431</b> | <b>561-591</b> | <b>721-751</b> | <b>881-911</b> |
| <b>121-151</b> | <b>281-311</b> | <b>441-471</b> | <b>601-631</b> | <b>761-791</b> | <b>921-951</b> |

If NPC numbers are expressed in four digits, the valid values are:

SP type NPC numbers listed by unit number, Unit Type FT (FTU)

| Unit<br>1        | Unit<br>2        | Unit<br>3        | Unit<br>4        |
|------------------|------------------|------------------|------------------|
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0001-0031</b> | <b>0161-0191</b> | <b>0321-0351</b> | <b>0481-0511</b> |
| <b>0041-0071</b> | <b>0201-0231</b> | <b>0361-0391</b> | <b>0521-0551</b> |
| <b>0081-0111</b> | <b>0241-0271</b> | <b>0401-0431</b> | <b>0561-0591</b> |
| <b>0121-0151</b> | <b>0281-0311</b> | <b>0441-0471</b> | <b>0601-0631</b> |

|                  |                  |                  |                  |
|------------------|------------------|------------------|------------------|
| Unit<br>5        | Unit<br>6        | Unit<br>7        | Unit<br>8        |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>0641-0671</b> | <b>0801-0831</b> | <b>0961-0991</b> | <b>1121-1151</b> |
| <b>0681-0711</b> | <b>0841-0871</b> | <b>1001-1031</b> | <b>1161-1191</b> |
| <b>0721-0751</b> | <b>0881-0911</b> | <b>1041-1071</b> | <b>1201-1231</b> |
| <b>0761-0791</b> | <b>0921-0951</b> | <b>1081-1111</b> | <b>1241-1271</b> |
| Unit<br>9        | Unit<br>10       | Unit<br>11       | Unit<br>12       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1281-1311</b> | <b>1441-1471</b> | <b>1601-1631</b> | <b>1761-1791</b> |
| <b>1321-1351</b> | <b>1481-1511</b> | <b>1641-1671</b> | <b>1801-1831</b> |
| <b>1361-1391</b> | <b>1521-1551</b> | <b>1681-1711</b> | <b>1841-1871</b> |
| <b>1401-1431</b> | <b>1561-1591</b> | <b>1721-1751</b> | <b>1881-1911</b> |
| Unit<br>13       | Unit<br>14       | Unit<br>15       | Unit<br>16       |
| <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       | <b>NPC</b>       |
| <b>1921-1951</b> | <b>2081-2111</b> | <b>2241-2271</b> | <b>2401-2431</b> |
| <b>1961-1991</b> | <b>2121-2151</b> | <b>2281-2311</b> | <b>2441-2471</b> |
| <b>2001-2031</b> | <b>2161-2191</b> | <b>2321-2351</b> | <b>2481-2511</b> |
| <b>2041-2071</b> | <b>2201-2231</b> | <b>2361-2391</b> | <b>2521-2551</b> |

**klafg** - Hierarchical signaling conversion NPC number

**kl** - Unit number  
**a** - Module number  
**fg** - NPC number within the module

**Note:** Only ODD NPC numbers are valid in the tables listed below. The even numbered NPC is not available for any other NPC type.

SP type NPC numbers listed by unit, module, and NPC Number  
Unit Type FT (FTU)

|              |            |              |
|--------------|------------|--------------|
| Unit         | Module     | NPC          |
| <b>01-16</b> | <b>1-4</b> | <b>01-31</b> |

**ts** - Time slot

001-064 Signaling conversion time slot numbers

**fmd** - FROM multipoint circuit mode of the connection  
**tmd** - TO multipoint circuit mode of the connection

For DMB circuits, there are four possible values for fmd and tmd:

| <b>fmd,<br/>tmd</b> | <i>Explanation</i>                                                                          |
|---------------------|---------------------------------------------------------------------------------------------|
| SYM                 | For legs of a symmetrical multipoint circuit (must be a DMB channel)                        |
| BRD                 | For nonbackbone (tributary) legs of a broadcast multipoint circuit (must be a DMB channel)  |
| BBL                 | For the backbone leg of a broadcast multipoint circuit (must be a DMB channel)              |
| LEG                 | For the end that does not terminate on the multipoint circuit (must be an FTU/DS3U channel) |

For virtual NPC circuits, there are three possible values for fmd and tmd:

| <b>fmd,<br/>tmd</b> | <i>Explanation</i>                                                                        |
|---------------------|-------------------------------------------------------------------------------------------|
| BRD                 | For nonbackbone legs of a broadcast multipoint circuit (must be a virtual NPC channel)    |
| BBL                 | For the backbone leg of a broadcast multipoint circuit (must be a virtual NPC channel)    |
| LEG                 | For the end that does not terminate on the multipoint circuit (must be FTU/DS3U channels) |

**snn** - Incoming gain adjust parameters for the DMB NPC  
**smm** - Outgoing gain adjust parameters for the DMB NPC

**s** - Sign (+ or -)  
**nn** - Incoming gain adjust value (-90 through +88)  
**mm** - Outgoing gain adjust value (-90 through +88)

These are the parameters requested for the TO termination. Values are given in steps of two and the units are tenths of a db.

For type VI100 NPCs snn and smm will be output as "---"

The special value --- (three dashes) can be used for either snn or smm (but not both) when no change is to be made to that parameter. This feature allows changing only one of the two parameters if desired. Also, if the cross-connection was provisioned with the NTR (no transmit) option, the gain adjustment in the direction for which transmission is shut off MUST be ---.



**nn** - Noise guard setting (in dB) for the FROM/TO NPC

The following default values apply:

For Symmetrical bridges                      Default: nn = -18 db

For Polling circuits                          Default: nn = 0 db

Valid values are listed below:

**nn**

00 db

06 db

12 db

18 db

--                      (For VI100 NPCs)

**ee** - Echo suppression setting (in dB) for the FROM/TO NPC

The following default values apply:

For Symmetrical bridges                      Default: ee = -18 db

For Polling circuits                          Default: ee = 0 db

Valid values are listed below:

**ee**

00 db

06 db

12 db

18 db

--                      (For VI100 NPCs)

**spp** - Incoming gain adjust parameters for the TO DMB NPC

**sqq** - Outgoing gain adjust parameters for the FROM DMB NPC

See snn and smm above for explanation and values.

**vv** - Noise guard setting (in dB) for the FROM DMB NPC

**tt** - Noise guard setting (in dB) for the TO DMB NPC

See nn above for default values.

**vv, tt**

00 db

06 db

12 db

18 db

**ww** - Echo suppression setting (in dB) for the FROM DMB NPC  
**uu** - Echo suppression setting (in dB) for the TO DMB NPC

See ee above for default values.

**ww, uu**

00 db  
06 db  
12 db  
18 db

**NTR** - No transmit

**r** - Direction which has no transmission

**r** *Explanation*

**F** FROM  
**T** TO

**TP** - Test port

**kk** - Test port number (01 through 96)

**TG** - Test (access) group

**mmm** - Test group number (001 through 400)

**t sm** - Test mode

Values are listed below:

|               |                                               |
|---------------|-----------------------------------------------|
| <b>t sm</b>   | <i>Mode</i>                                   |
| <b>HUB</b>    | Hubbed                                        |
| <b>LPD</b>    | Looped                                        |
| <b>MON</b>    | Monitor                                       |
| <b>SPL</b>    | Split                                         |
| <b>TPR</b>    | Test Port Released                            |
| <b>TGR</b>    | Test Group Released                           |
| <b>SPLNOY</b> | Split with yellow alarm transmission disabled |

**l** - Link used to access this test port (0 if mode is released)

**vv** - Virtual circuit number of an X.25 link used to access this test port  
(01 through 16)

**p** - Channel assignment

Valid values are listed below:

| <b>p</b> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|          |                                 |
|----------|---------------------------------|
| <b>F</b> | FROM side of circuit under test |
|----------|---------------------------------|

|          |                                                           |
|----------|-----------------------------------------------------------|
| <b>H</b> | HIGH channel of hubbed test port (only for HUB test mode) |
|----------|-----------------------------------------------------------|

**q** - Channel assignment

Valid values are listed below:

| <b>q</b> | <i>Explanation</i> |
|----------|--------------------|
|----------|--------------------|

|          |                               |
|----------|-------------------------------|
| <b>T</b> | TO side of circuit under test |
|----------|-------------------------------|

|          |                                                          |
|----------|----------------------------------------------------------|
| <b>L</b> | LOW channel of hubbed Test Port (only for HUB test mode) |
|----------|----------------------------------------------------------|

**[s]ghijj**

- Nonhierarchical FROM, HIGH, or DSPP NPC number

If test access is made to a digital signal processing platform (used for signaling conversion between an E1 and a T1 NPC) then [s]ghijj is the SP100 NPC.

**[t]jklenn**

- Nonhierarchical TO, LOW, E1, or T1 NPC number

If test access is made to a digital signal processing platform (used for signaling conversion between an E1 and a T1 NPC) then [t]jklenn is the E1 or T1 NPC.

**edhfg** - Hierarchical FROM/HIGH

**opjst** - Hierarchical TO/LOW

**ed, op** - Unit number

**h, j** - Module number

**fg, st** - NPC number within module

Valid values are identical to those for uvmnp

**[s]ghi, [t]jhk**

- The 3- or 4-digit nonhierarchical NPC number

Valid values are identical to those for [s]abc.

**jjj, nnn**

- Channel or time slot number

Valid values are identical to those for ddd above.

**UEQD** - Unequipped

**RNGIE** - Range input error

**COND** - Condition

**cc** - Hexadecimal condition code

**cc Explanation**

|    |                                                             |
|----|-------------------------------------------------------------|
| 15 | NPC is unequipped                                           |
| E3 | One way unassigned channel/NPC in QRY,TO                    |
| 0B | Invalid CEPT NPC                                            |
| 62 | Invalid channel number                                      |
| 63 | NPC is a DGP                                                |
| 7F | NPC is not added                                            |
| 91 | SR NPC was specified - not allowed                          |
| F7 | Corresponding NPC for virtual channel is<br>not provisioned |
| B4 | NPC is channelized type                                     |

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