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Digital Multipoint Bridge (DMB) DSP Platform Application Release 1.0.2, PDS for DACS II Release 1.0.3, PDS for DACS II ISX

User's Manual

365-353-144
Issue 1
November 1998

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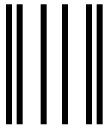

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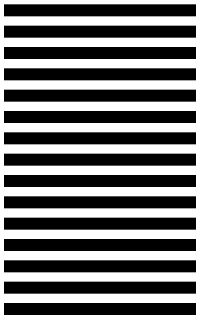

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About This Document

Purpose

This document provides users with procedural information needed to support the daily operation and maintenance activities of the Digital Multipoint Bridge (DMB) Application for the DSP Platform. This application can be used in conjunction with either of the following:

- The Digital Access and Cross-Connect System II (DACS II) Release 8.2.2 or higher
- The Digital Access and Cross-Connect System II - Integral Shelf Cross-Connect (DACS II ISX) Release 3.1.2 or higher

This document only supports the PDS language.

This document contains the following:

- A tutorial discussing the DMB features
- DMB application specific operation, maintenance, and installation procedures
- DMB application specific test access procedures
- DMB application specific command and messages
- A quick reference guide listing all of the command syntax for the DMB application.

Intended Audiences

This document is targeted for the individuals responsible for the provisioning, operation, and maintenance of the DACS II or DACS II ISX system's DMB application.

How to Use This Document

There are three ways to access the information in this document:

- Using the overall table of contents located in the front of the manual
- Using the index located in the back of the manual
- Using the tabs and the table of contents located in the front of each chapter

Before you use the procedures in this document, you should have completed one of the following courses:

- *DACS II ISX 24 Channel (1544 kbit/s Interface) Operation and Maintenance course (TR3526)*
- *DACS II ISX 30 Channel (2048 kbit/s Interface) Operation and Maintenance course (TR3527)*

If you were not able to take a training course, you should carefully study the information described in this document.

Contents

- **Chapter 1 - Introduction**

  This chapter provides an overview of the DMB application on the DSP Platform. It describes the DMB application, hardware and software requirements, functional operation, and the use of the command and message set that is provided with the application software.

- **Chapter 2 - Tutorial**

  This chapter contains a basic introduction to the functionality of the DMB application.

- **Chapter 3 - Software and Hardware Installation**

  This chapter includes procedures to install the application software and hardware.

- **Chapter 4 - Provisioning**

  This chapter contains the procedures to provision the Digital Signal Processing (DSP) Platform TG193B circuit pack, including growing and restoring the DSP Platform circuit pack, establishing cross-connection paths, and querying DMB cross-connections.

- **Chapter 5 - Test Access**

  This chapter contains the procedures to create, change, and query DMB test access channels.

- **Chapter 6 - Commands and Messages**

  This chapter contains all of the commands and messages for the DMB application.

- **Chapter 7 - Command Denials**

  This chapter lists the command denial codes and their meanings. This information is useful in determining problems with the DMB application. You should be familiar with the contents of this chapter before you attempt any of the other procedures.

- **Chapter 8 - Quick Reference Guide**

  This chapter contains a list of all of the commands and parameters for the DMB application.

Conventions Used

This manual uses a special font to help users differentiate computer input/output from descriptive/procedural text. The **`constant width bold font`** indicates message formats, keywords, letter representations of parameters, parameter values, and messages as they would appear on a DACS terminal screen.

This document contains admonishments in the form of a **Note** or a **Caution**.

Notes inform users of special considerations, situations, or items to remember. An example of a Note is shown below:

NOTE:
Terminated connection for DMB concatenation is not allowed.

Cautions indicate the presence of a hazard that will or can cause a frame alarm or property damage if hazard is not avoided. An example of a Caution is shown below:

CAUTION:
The UMC is inserted towards the direction that is terminated, potentially causing a loss of service.

Related Documentation

The following documents support the DACS II system:

- DACS II Release 8.2.2 Installation Manual:
  - IPH903 (DACS II CEF)
  - IPH903I (DACS II ESBF)

  Audience: Customers planning to install the equipment

  Content: Customer installation instructions.
- DACS II Release 7.0 Product Description Manuals:
  - 365-353-085 (24 Channel)
  - 365-353-086 (30 Channel)

  Audience: Network planners, engineers, and others that need to know how the DACS II works and fits into the network

  Content: Features, applications, and description and other reference information.
- DACS II Release 8.2.2 Operation and Maintenance Manuals:
  - 365-353-161 (PDS)
  - 365-353-171 (MML)
  - 365-353-181 (PDS 2.048-Mb/s Interface)
  - 365-353-191 (MML 2.048-Mb/s Interface)

  Audience: End-user maintenance personnel

  Contents: Procedures to operate and maintain the DACS II.

- DACS II Release 8.2.2 Command and Message Manuals:
  - 365-353-162 (PDS)
  - 365-353-172 (MML)
  - 365-353-182 (PDS 2.048-Mb/s Interface)
  - 365-353-192 (MML 2.048-Mb/s Interface)

  Audience: End-user maintenance personnel

  Content: Description of each software input message and its response along with a description of each system output report.
- DACS II Release 8.2.2 Quick Reference Guides:
  - 365-353-163 (PDS)
  - 365-353-173 (MML)
  - 365-353-183 (PDS 2.048-Mb/s)
  - 365-353-193 (MML 2.048-Mb/s)

  Audience: End-user maintenance personnel

  Content: Abbreviated list of system commands and parameters.
- DACS II Release 8.2.2, Software Release Description:
  - Com. Code CC108356866

  Audience: End-user maintenance personnel

  Content: Upgrade procedures for the new software release, status of problems fixed in previous releases, and operating issues for the specified software release.

The following documents support the DACS II ISX system:

- DACS II ISX Release 2.0 and 3.0 Installation Manual:
  - 365-359-080

  Audience: Customers planning to install the equipment

  Content: Customer installation instructions.
- DACS II ISX Expansion Shelf Installation Manual:
  - 365-059-079

  Audience: Customers planning to install the equipment

  Content: Customer installation instructions.

- DACS II ISX Release 3.0 Low Speed Interface Unit Installation Manual:
  - CC108121146

  Audience: Customers planning to install the equipment

  Content: Customer installation instructions.
- DACS II Customer Reference Manual:
  - 365-353-000

  Audience: Network planners, engineers, and others that need to know how the DACS II ISX works and fits into the network

  Content: Features, applications, and description and other reference information.
- DACS II ISX Release 3.1.2, Operation and Maintenance Manuals:
  - 365-359-100 (PDS)
  - 365-359-103 (MML)

  Audience: End-user maintenance personnel

  Contents: Procedures to operate and maintain the DACS II ISX.
- DACS II ISX Release 3.1.2, Command and Message Manuals:
  - 365-359-101 (PDS)
  - 365-359-104 (MML)

  Audience: End-user maintenance personnel

  Content: Description of each software input command and its corresponding output message response.
- DACS II ISX Release 3.1.2, Quick Reference Guides:
  - 365-359-102 (PDS)
  - 365-359-105 (MML)

  Audience: End-user maintenance personnel

  Content: Abbreviated list of system commands and parameters.
- DACS II ISX Release 3.0, LSIU Reference Guide:
  - 365-359-078

  Audience: End-user maintenance personnel

  Contents: Procedures to install, operate, and maintain the Low Speed Interface Unit (LSIU).

- DACS II ISX Release 3.1.2, Software Release Description:
  - Comcode: C108328782

  Audience: End-user maintenance personnel

  Content: Upgrade procedures for the new software release, status of problems fixed in previous releases, and operating issues for the specified software release.

The following documents support both the DACS II and DACS II ISX systems:

- X.50/X.57 Subrate Application
  Release 1.0.3 for DACS II
  Release 1.0.4 for DACS II ISX
  MML 2.048 Mbit/s Interface, User's Manual
  - 365-350-101 (MML)

  Audience: End-user maintenance personnel

  Content: Complete manual describing how to install and operate the X.50/X.57 Subrate application on the DACS II or DACS II ISX. Commands and messages describing how to perform subrate cross-connects and subrate test access are included.
- DDS Subrate and MJU Application
  Release 1.0.4 for DACS II
  Release 1.0.5 for DACS II ISX
  User's Manual
  - 365-350-110 (PDS),
  - 365-350-111 (MML)

  Audience: End-user maintenance personnel

  Content: Complete manual describing how to install and operate the DDS Subrate and MJU application on the DACS II or DACS II ISX. Commands and messages describing how to perform DDS subrate cross-connects, subrate test access, and subrate MJU operations are included.

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Introduction

1

Contents

Introduction

1

Overview

The Digital Multipoint Bridge (DMB) application extends Lucent Technologies' DMB capability to the DACS' Digital Signal Processing (DSP) Platform. It introduces the following features:

- Maximum capacity of 64 legs per DSP circuit pack
- Capability to create symmetrical voice and polling data conference bridges
- Capability to concatenate either symmetrical or polling bridges up to six DSP NPCs deep for a maximum total of 290 legs for a T1 DACS II and 374 legs for a CEPT DACS II (functionality will be available for DACS II ISX by Release 3.1.2 and DACS II by Release 8.2.2).
- DSP provisioning
- DSP DMB cross-connections
- DSP test access

On the DACS II ISX, the Digital Signal Processing (DSP) Platform, includes both hardware and software. The DSP Platform are layers of software running on the DACS II ISX Main Controller/Unit Controller (MC/UC) and the DSP TG193B circuit pack(s). This allows customers application-specific software that is not tied to the higher level of generic software. The DSP software, provided on separate PCMCIA cards, can be installed at any time.

NOTE:
For DACS II ISX, the DMB application will run on the DSP Platform for Release 3.1.2 and subsequent DACS II ISX releases. For DACS II, the DSP Platform feature will be incorporated into the generic software for Release 8.2.2 of DACS II, making the DMB application available on the DACS II system for Release 8.2.2 and subsequent DACS II releases.

In the DACS II frame, the DSP TG193B circuit pack will plug into any of the first available 16 slots for a CEPT Facility Terminating Module (FTM) or any of the available 20 slots in T1 FTM. In the DACS II ISX frame, the DSP circuit pack plugs into any of the available 16 slots in the NPM. Each pack has a capacity of up to 21 conferences. Conferences on the same circuit pack may be cross-connected to each other. Additionally, a conference on one DSP circuit pack may be cross-connected to a conference on another DSP circuit pack.

The DMB application supports both the PDS and MML command languages.

This document contains procedures for the following topics:

- Installing the DSP application software and hardware
- Provisioning the DSP TG193B circuit pack for the DMB application
- Establishing channels from facility terminating NPCs to the DSP circuit pack to create conferences.
- Performing test access for DMB circuits

The DSP Platform is designed to perform autonomous memory backups of the state of the application after each action.

Protection switching for failed DSP circuits will not be available for this release of the DMB application.

Getting Started

This section briefly describes the installation and provisioning processes for the DMB application, as well as some key application capabilities. Included in each sub-section below are chapter and/or section references in the document to obtain additional procedural information.

The Installation Process

DMB software installation applies only to the DACS II ISX frame. The DMB feature will be incorporated into the generic release software for DACS II, therefore no software installation procedure for DACS II is necessary.

For DACS II ISX, the software for the DMB application is loaded on the generic DACS software. The DMB software must be downloaded onto the DSP circuit packs to begin using the application. The following briefly describes the installation process:

1. The MEMB memory card is temporarily removed from the MEMB memory card slot. The PCMCIA card containing the DMB application is then inserted into the MEMB memory card slot.
2. The DMB application is then copied to the DACS' memory card in the primary memory card slot (MEMA).
3. The PCMCIA card that contains the DMB application is removed from the MEMB memory card slot, and the DACS' secondary memory card is replaced and restored to service.
4. The application is then copied from the first memory card to the second memory card, ensuring that both memory cards have the same application information on them.

The detailed procedure for installing the application software onto the DACS II ISX is provided in Chapter 3 in the section entitled, "Upgrading the Digital Signal Processing (DSP) Platform Application Software."

The Provisioning Process

There are three steps that are required for provisioning the DSP circuit pack and the facility terminating NPCs for the DMB application. Each step is reversible and must be done in sequence.

1. The first step in the provisioning process is to **grow** the DSP circuit pack(s). The DMB application runs on one or more DSP TG193B circuit pack(s). Growing a DSP circuit pack puts the circuit pack into the DACS equipment list. As with other circuit packs in DACS, the **GRTH** command is used to install the desired number of DSP circuit packs on the system. Since the DSP circuit pack can be used for other applications, the **GRTH** command is described in detail in the *DACS II* or *DACS II ISX Command and Message Manuals*.

   NOTE:
   When a DSP card is provisioned, it can only be grown as an odd-numbered NPC (i.e. 001, 003, etc.). Once the DSP card is grown and restored, it occupies both the odd and its consecutive even NPC number slots. Growing an even-numbered NPC will result in denial

   The DSP circuit pack need not be physically equipped before issuing the **GRTH** command.

2. The next step is to **restore** the DSP circuit pack. Restoring a circuit pack places it into service. This is performed by using the DACS command **RST**.

   For this step, the DSP circuit pack must be physically equipped before issuing the **RST** command. The out-of-service diagnostics are performed first by the DSP circuit pack. Then, the DMB application is downloaded into it. After downloading the application, the restore process performs an in-service diagnostic on the DSP circuit pack.

   The **RST** command is described in detail in the *DACS II* and *DACS II ISX Command and Message Manuals*.

3. The third step is to **establish** the cross-connections between the appropriate facility terminating NPCs and the DSP circuit pack. Establishing these cross-connections is performed by using the application command **TCON/TCNT**. This connection is illustrated in Figure 1-1.

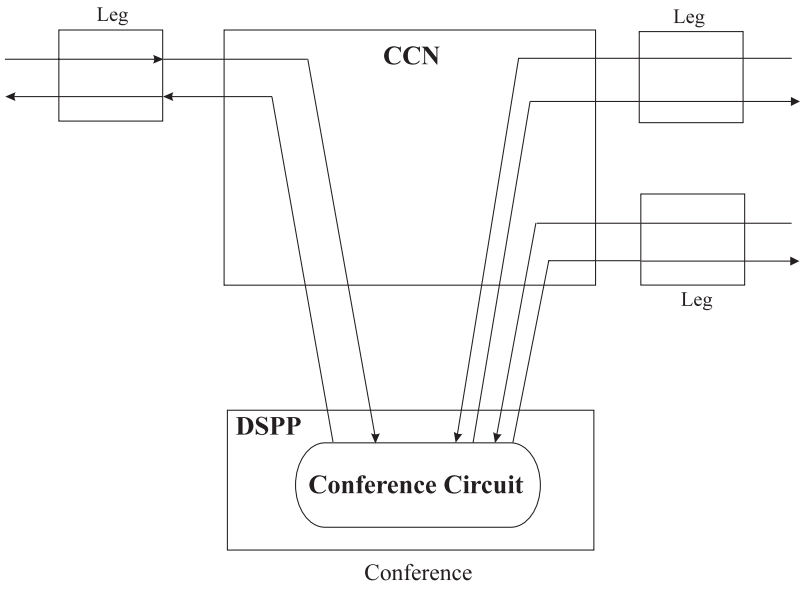

Figure 1-1. Connection Established Between NPC and DSP Platform

CAUTION:
The following channels can not be cross-connected to the DSP circuit pack with this DMB application:

- NPCs that carry clear unchannelized circuits
- Channels that are provisioned as test port channels
- Channels 0 and 31 of an E1 facility provisioned with CAS
- Channel 0 of an E1 facility provisioned with NSA
- Channel 24 of an NPC grown with T1DM framing. (T1s in T1DM mode use Channel 24 as an additional framing channel)

The procedures for provisioning the DSP circuit pack and facility terminating NPCs are described in Chapter 4.

Test Access and Termination Capability

The DMB application also provides test access capability. This capability allows users the capability of placing a DMB circuit into one of four of the following distinct modes:

1. **Monitor** - allows both directions of data transmission to be monitored without disturbing the data flow.
2. **Split** - creates completed two-way transmission between each side of the circuit under test and the two test access channels.
3. **Terminated** - allows the user to reserve all the resources necessary for a circuit or circuits and to turn the cross-connections on at a later time.
4. **Released** - the test access connection (in either monitor or split mode) is removed.

The procedures for creating test access channels and DMB test connections are described in Chapter 5.

The Utility Query Commands

There are query commands that request provisioning info on DMB circuits, capacity information on each conference on a DSP NPC, and test access state information on the DSP NPC. The query commands associated with provisioning are located in Chapter 4. The query command associated with Test Access is located in Chapter 5.

Tutorial

2

Contents

Tutorial

2

Overview

This tutorial was developed to provide users with background information on the following DMB application information:

- Contrasting the DMB functionality on the DSP Platform and the DSPU
- Conference bridge types
- DMB conference cross-connections

DSP Platform DMB Vs. DSPU DMB

The DMB functionality currently exists through the Digital Signal Processing Unit (DSPU). By having the DMB available on the DSP circuit pack, the customer will have the flexibility to use this feature without having a DSPU on the DACS frame.

The input commands for the DMB on the platform NPC:

- A polling data bridge with a maximum of 64 legs of which to form, for example, 21 three-leg bridges, or any numerous combinations of bridges of intermediate sizes
- A symmetrical voice bridge with a maximum of 50 legs of which to form, for example, 15 three-leg bridges, or any numerous combinations of bridges of intermediate sizes

T1 DACS II Capacities

The DMB will have the capacity to form a bridge with a maximum of 50 legs of which to form, for example, 15 three-leg bridges, or any numerous combinations of bridges of intermediate sizes. Therefore, a conference can have a maximum of 50 legs on any one DSP NPC, regardless of the number of conferences on that DSP NPC.

Bridge Types

The DMB application on the DSP circuit pack will support the Symmetrical Voice bridge and the Polling Data bridge. A DSP circuit pack can have a mixture of both bridge types.

Symmetrical Voice Bridges

A symmetrical voice bridge is used strictly for voice transmission. It is composed of one or more "symmetrical" (SYM) legs connected to the DMB conference (See Figure 2-1). Each leg of the conference receives the voice from all of the other legs, but does not receive its own transmission.

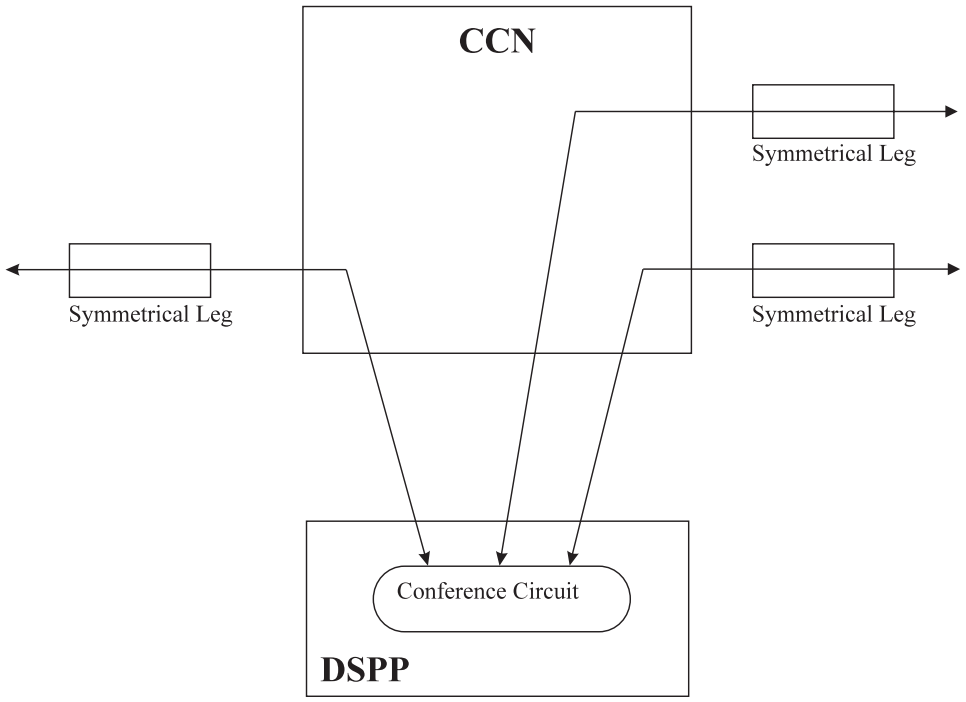

Figure 2-1. Symmetrical Voice Bridge

Polling Data Bridges

A polling data bridge is used for data and voice transmission. A backbone, or master leg has two-way communication with the tributary legs, but the tributary legs cannot communicate with each other (See Figure 2-2). The broadcast direction of the polling circuit is connected from the master leg to tributary legs through the DMB, without passing through the summing circuit. However, the master leg's signal must be monitored by the summing circuit. The return direction of the signal is summed.

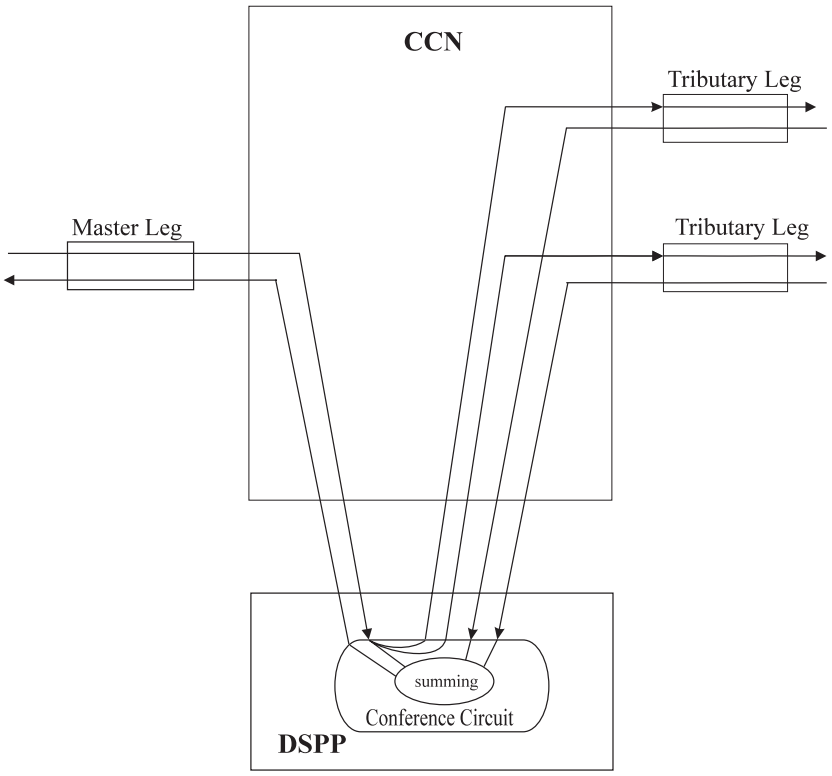

Figure 2-2. Polling Data Bridge

Conference Concatenation Bridges

With the DSP DMB, it is possible to create conferences with more than 64 legs by concatenating DMB circuits on different DSP circuit packs. This is known as a DMB-DMB connection, and is useful when additional legs are necessary to add for a large conference. The DMB application provides a maximum of up to 6 DSP circuit packs capable for making a concatenated conference, giving a maximum of 374 legs for the CEPT I/FTU and 290 legs for a T1 I/FTU DACS II.

NOTE:
DMB-DMB conferences are not yet supported on the DACS II ISX system. This functionality is scheduled to be incorporated for DACS II ISX Release 3.1.

In order to make the DMB-DMB connection, users have to send the same cross-connect message to two DSP circuit packs that will be connected together. In a polling concatenated bridge, a conference leg of the 1st DSP NPC will serve as the backbone leg to the 2nd DSP NPC, and so on.

Symmetrical Voice Bridge Concatenation Example

If, for example, a user has a symmetrical conference bridge preexisting on DSP NPC 021, Conference 5. Suddenly, the user has a need for a larger conference, but does not have available capacity on the bridge to create additional legs. The user can increase conference capacity by concatenating the bridge to an unused bridge, e.g., DSP NPC 023, Conference 7, by entering the following commands (See Figure 2-3):

```
DSPC::021:TCON::FROM 021005,TO 023nnn,MPM(SYM,SYM)!
DSPC::023:TCON::FROM 023007,TO 021nnn,MPM(SYM,SYM)!
```

Where **nnn** is the fictitious channel number the user selects between the values 001 and 999. The user must use this number for both cross-connection commands above to create the link between the two bridges.

NOTE:
Terminated connection for DMB concatenation is not allowed.

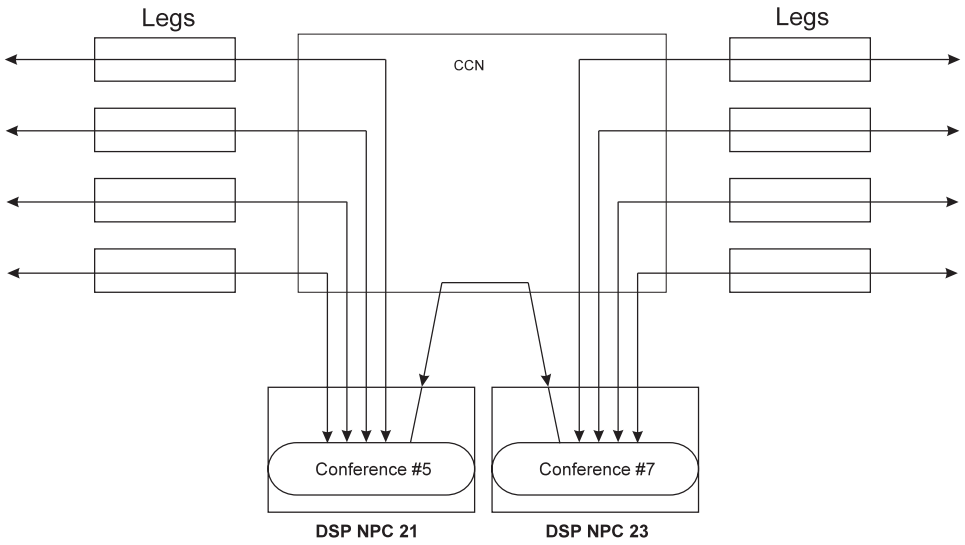

Figure 2-3. Symmetrical Voice Bridge Concatenation

Polling Data Bridge Concatenation Example

A user is utilizing a polling conference bridge on DSP NPC 021, Conference 5 to full capacity. Now, the user needs to create a data conference large enough to accommodate more locations. This can be accomplished by concatenating the bridge to an unused polling bridge, e.g., DSP NPC 023, Conference 7. The following commands are used to concatenate the two polling bridges (See Figure 2-4):

```
DSPC::021:TCON::FROM 021005,TO 023nnn,MPM(BRD,BBL)!
DSPC::023:TCON::FROM 023007,TO 021nnn,MPM(BBL,BRD)!
```

Where **nnn** is the fictitious channel number the user selects between the values 001 and 999. The user must use this number for both cross-connection commands above to create the link between the two bridges. **nnn** becomes the "master leg" to the second conference bridge.

NOTE:
Terminated connection for DMB concatenation is not allowed.

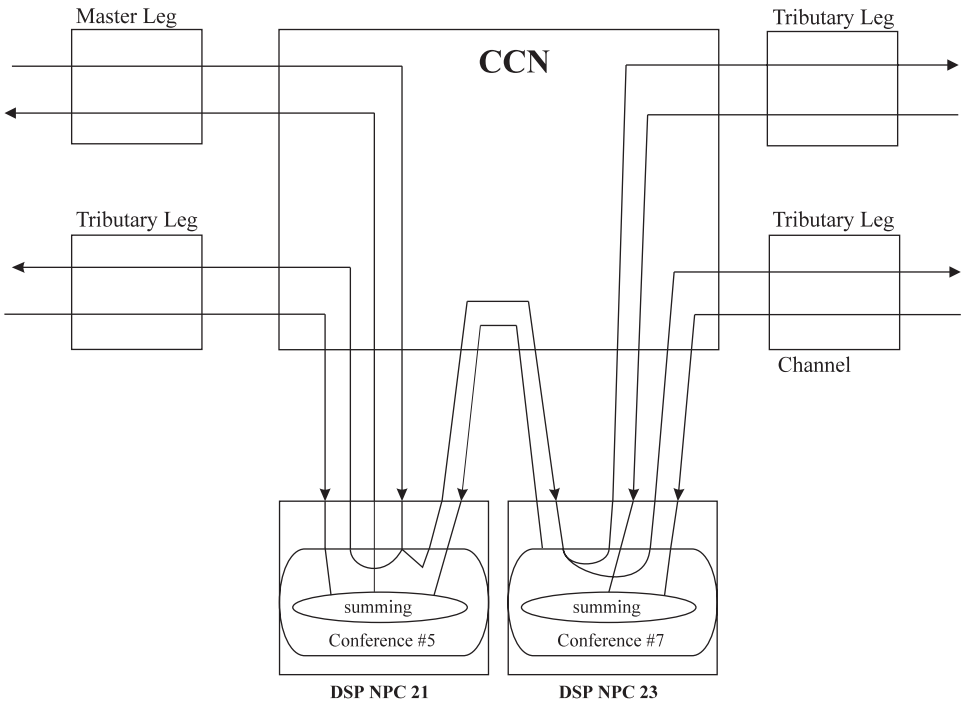

Figure 2-4. Polling Data Bridge Concatenation

DMB Cross-connections

There are three pieces of information needed to create connections from a leg to the DMB:

1. The channel number of the facility terminating NPC (User-specified)
2. The conference number corresponding to a conference on the DMB DSP circuit pack (User-specified)
3. The NPC channel of the DMB (DSP Platform-specified)

To make a connection from a leg into the DMB requires two actions:

1. A Cross-Connect Network (CCN) action that connects the leg to the DMB NPC channel (via a **TCON/TCNT** command).
2. An automatic DSP Platform action that connects the channel of the DMB into the conference.

Cross-connection Example

If a user wants to make a connection between NPC 15, Channel 12 to a symmetrical voice conference 6 on DSP NPC 19, the input command entered is (See Figure 2-5):

```
DSPC::019:TCON::FROM 019006,TO 015012,MPM(SYM,LEG),\
TRSP,TRB!
```

Or...

```
DSPC::019:TCON::FROM 015012,TO 019006,MPM(LEG,SYM),\
TRSP,TRB!
```

Where NPC 15, Channel 12 and NPC 19, Conference 6 are determined by the user. After it receives and parses the input command, the DSP Platform software must assign a channel (1 - 50 for T1 DACS II, 1 - 64 for CEPT DACS II, and 1-64 for DACS II ISX), which is used to create the cross-connection, building the conference circuit. This channel number is automatically selected based on the first available channel of the DSP NPC.

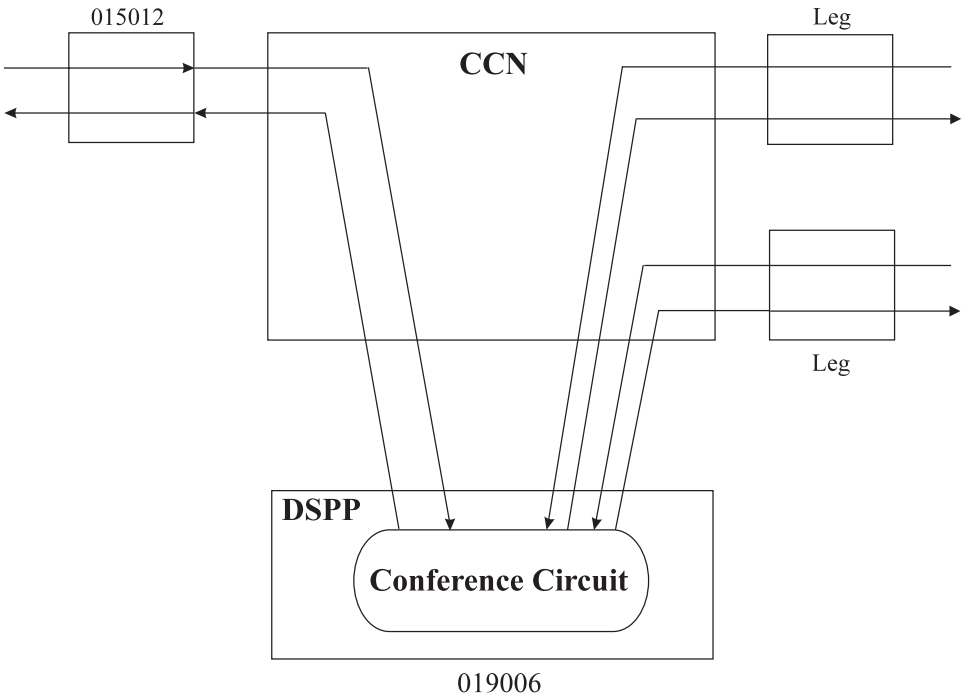

Figure 2-5. Two-Way Cross-connection

NOTE:
In DMB cross-connection, a range for channels cannot be specified. Therefore, conference circuits need to be created one at a time.

Noise Guard

Noise Guard (NG) is used to attenuate the gaussian noise contribution for a particular conference leg, reducing the level of the noise heard on the conference bridge. Noise build-up occurs from the summing function of the conference bridge. Bridge summation allows a conference leg to receive transmissions from each leg in the conference simultaneously.

NG is set by issuing a **CHG** DMB command. The possible values for NG are 00, -6, -12, or -18 dB. The default values are:

- Symmetrical Voice bridges: -18 dB
- Polling Data bridges: 0 dB

Echo Suppression

Echo Suppression (ES) is used to increase the echo return loss on a conference leg during the time when the specified leg is "listening." When a leg is listening, additional loss is switched to the input path of the leg to reduce the echo level contribution of that leg to the entire conference bridge. The DMB application determines whether a leg is actively transmitting and attenuates any signals present on the input of that leg.

ES is set by issuing the same **CHG** DMB command as for NG. The possible values for ES are 00, -6, -12, or -18 dB. The default values are:

- Symmetrical Voice bridges: -18 dB
- Polling Data bridges: 0 dB

Transmission Level Point

Transmission Level Point (TLP) is used to adjust the gain level of each conference leg to the same level. Therefore, each leg will transmit at equal levels, no one leg being neither overpowering or overlooked. The TLP levels should be set the same in both the receive and transmit direction.

TLP is set by issuing the same **CHG** DMB command as for NG and ES. All three values can be set at one time. The possible values for TLP range from -90 to +88 in steps of 2 and in increments of .1 of a dB. The default value for all conference bridges is 0 dB.

Software and Hardware Installation

3

Contents

Software and Hardware Installation

3

Software Installation Procedures

Software that runs on the Digital Signal Processing (DSP) Platform TG193B circuit pack is called application software. It is treated by DACS II and DACS II ISX as a separate and distinct application that interacts with the generic software through an interface similar to an operating system interface.

The procedures described in this section make use of the **INSTALL** command which is used to install the DSP application software onto the DACS II and DACS II ISX memory cards. In order to install the software, the system must first be in Maintenance Condition (MCOND). Once the software is installed onto the memory cards, the DSP application is then transferred into the Main Controller's memory when the system is taken out of MCOND and then placed "in-service".

The **INSTALL** command may be used for the following purposes:

- Listing DSP application releases previously installed
- Installing a new application release
- Upgrading an older release of a DSP application with a newer release of that application
- Removal of a DSP application release

Usage of the **INSTALL** command is limited to the Frame Administrator and users with restricted maintenance privileges.

The execution of the **INSTALL** command generates a menu for the user. Each function and its menu usage are described in the sections that follow.

Listing Application Releases Resident on a DSP Distribution Card

This procedure is used to list the application releases that are on a DSP distribution memory card. The memory card is installed in the memory card slot SMEM/MEMB.

NOTE:
This procedure is intended to be used together with the application install, upgrade, or remove procedure. It is, therefore, a requirement to place the MC into Maintenance Condition. However, if the user desires to list the application releases that reside on the memory cards in PMEM/MEMA and SMEM/MEMB while MC is in-service, the command (I.51001) **UTL::QRY,MEMSTAT!** should be used.

Step	Procedure

1 Login as the Frame Administrator (USER DAX) or as a user that has Restricted Maintenance privileges.

2 Enter the following command to place the MC in the MCOND service state:

RST::MC,MCOND!

Where:

MC = Main Controller
MCOND = Maintenance Condition

Enter the following command to remove MEMB from service:

RMV::SMEM! (for DACS II)
RMV::MEMB! (for DACS II ISX)

3 Remove and replace the memory card in SMEM/MEMB with the DSP distribution card.

4 Enter the following command line to restore SMEM/MEMB to service:

RST::SMEM! (for DACS II)
RST::MEMB! (for DACS II ISX)

The memory card in SMEM/MEMB is not over-written by the system because the system is in MCOND.

5 Enter the following command line:

INSTALL!

Step	Procedure

Output similar to the following will be displayed:

```
******* DSP PLATFORM - LOAD INSTALLATION UTILITY ******

        1.  List DSPP Load Files
        2.  Install DSPP Load Files
        3.  Remove DSPP Load Files

Enter number of command [1-3], or Q to QUIT:
```

6 Enter **1!** Output similar to the following will be displayed:

For DACS II:

```
DSP LOADS ON MEMORY CARDS:

============ LOADS ON PMEM: (DACS II CARD) ============
NAME          BYTES  TYPE    VERSION      DATE BUILT
------------ ------- ---- ------------ ----------------

===== LOADS ON SMEM: (DSP DISTRIBUTION CARD) ==========
NAME         BYTES  TYPE    VERSION       DATE BUILT
---------- -------  ---- ------------ -----------------
SD3load     XXXXXX   SD3 1.00.01-XXXX XX/XX/XX XX:XX:XX

-----------------------------------------------------
```

For DACS II ISX:

```
DSP LOADS ON MEMORY CARDS:

============ LOADS ON MEMA: (ISX CARD) ================
NAME          BYTES  TYPE    VERSION      DATE BUILT
------------ ------- ---- ------------ ----------------

===== LOADS ON MEMB: (DSP DISTRIBUTION CARD) ==========
NAME         BYTES  TYPE    VERSION       DATE BUILT
---------- -------  ---- ------------ -----------------
SD3load     XXXXXX   SD3 1.00.01-XXXX XX/XX/XX XX:XX:XX

-----------------------------------------------------
```

Step	Procedure

NOTE:
The output shown indicates that there is no DSP application installed on the memory card in slot PMEM/MEMA. The memory card in slot SMEM/MEMB is a DSP distribution card.

7 To exit the DSP Platform Load Installation Utility enter **Q!**

The following message will then be displayed:

```
INSTALL QUIT
```

8 Remove the DSP distribution card from the system and replace it with the DACS II/DACS II ISX memory card. Enter the following command to remove SMEM/MEMB from service:

RMV::SMEM! (for DACS II)
RMV::MEMB! (for DACS II ISX)

9 Remove and replace the DSP distribution card in SMEM/MEMB with the memory card that was previously removed in steps 2 and 3.

10 Enter the following command line to restore SMEM/MEMB to service:

RST::SMEM! (for DACS II)
RST::MEMB! (for DACS II ISX)

The memory card in SMEM/MEMB is not over-written by the system because the system is in MCOND.

11 To restore the MC to the In Service state, enter the following command:

RST::MC!

Where:

MC = Main Controller

If the command is denied because the memory card diagnostics failed, this may be an indication that the system could not determine which memory card to boot from. If this occurs, enter the following command line to examine the contents of the system memory devices:

UTL::QRY,MEMSTAT!

Step	Procedure

Information will be displayed for the contents of MC RAM, PMEM/MEMA, and SMEM/MEMB. The following information will be displayed regarding the contents of each memory device that can be accessed:

- Software release of the system software
- Software release of the database
- Date and time stamp of the database
- Frame ID and Unique ID of the system.

Before the MC can be restored to the In Service state, any memory card discrepancies which may occur must be resolved. Do not reset the system at this time. If the reason for the denial still cannot be determined, contact your Technical Support personnel.

Installing the Digital Signal Processing (DSP) Platform Application Software

This procedure is used to install a particular DSP Platform application software.

Step	Procedure

1 Make sure that the memory card that is restored in PMEM/MEMA contains a current copy of the system executables and system database.

2 Login as the Frame Administrator (USER DAX) or as a user that has Restricted Maintenance privileges.

3 Enter the following command to place the MC in the MCOND service state:

RST::MC,MCOND!

Where:

MC = Main Controller
MCOND = Maintenance Condition

4 Enter the following command to remove SMEM/MEMB from service:

RMV::SMEM! (for DACS II)
RMV::MEMB! (for DACS II ISX)

5 Physically remove the memory card in the SMEM/MEMB slot from the system and place it in a safe place, it will be reinserted later in this procedure.

6 Replace the memory card that was in SMEM/MEMB with the memory card that contains the DSP Platform software application.

7 Enter the following command line to restore SMEM/MEMB to service:

RST::SMEM! (for DACS II)
RST::MEMB! (for DACS II ISX)

The memory card in SMEM/MEMB is not over-written by the system because the system is in MCOND.

8 Enter the following command line to list the DSP Platform software executables:

INSTALL!

Step	Procedure

Output similar to the following will be displayed:

```
******* DSP PLATFORM - LOAD INSTALLATION UTILITY *****

        1.  List DSPP Load Files
        2.  Install DSPP Load Files
        3.  Remove DSPP Load Files

Enter number of command [1-3], or Q to QUIT:
```

9 Enter **1!** to list the DSP Platform software executables.

10 Examine the output that is displayed. If the correct executables are shown in the output, proceed with the following steps. If the desired executables are not shown, you should not attempt to install the software at this time. To exit the INSTALL procedure, perform steps 14, 15, 16, 17, 18, and 23.

11 Once the listing has been displayed, the following menu is displayed:

```
******* DSP PLATFORM - LOAD INSTALLATION UTILITY *****

        1.  List DSPP Load Files
        2.  Install DSPP Load Files
        3.  Remove DSPP Load Files

Enter number of command [1-3], or Q to QUIT:
```

12 Enter **2!** to install the DSP Platform software executables.

Output similar to the following will be displayed:

For DACS II:

```
Installing DSP load file: 4.01/SD3load, XXXXXX bytes from
SMEM to PMEM
Installation Complete, Number of files installed from
SMEM to PMEM: 1.
```

For DACS II ISX:

```
Installing DSP load file: 1.04/SD3load, XXXXXX bytes
from MEMB to MEMA
Installation Complete, 1 files installed from MEMB to MEMA.
```

Step	Procedure

13 Enter **1!** to verify that the application software just installed was properly loaded on the PMEM/MEMA memory card.

14 To exit the DSP Platform Load Installation Utility enter **Q!**

The following message will then be displayed:

INSTALL QUIT

15 Enter the following command to remove SMEM/MEMB from service:

RMV::SMEM! (for DACS II)
RMV::MEMB! (for DACS II ISX)

16 Physically remove the DSP distribution card that is in the SMEM/MEMB slot from the system and store it in a safe place.

17 Replace the DSP distribution card that was in SMEM/MEMB with the memory card initially removed from SMEM/MEMB in steps 4 and 5. This card currently contains a copy of the system's generic system software and database prior to issuing the **INSTALL** command.

18 Enter the following command line to restore SMEM/MEMB to service:

RST::SMEM! (for DACS II)
RST::MEMB! (for DACS II ISX)

The memory card in SMEM/MEMB is not over-written by the system because the system is in MCOND.

19 Enter the following command line to ensure that the DSP application is also copied to SMEM/MEMB:

UTL::BMTR,FROM PMEM,TO SMEM,EXCT! (for DACS II)
UTL::BMTR,FROM MEMA,TO MEMB,EXCT! (for DACS II ISX)

When the **EXCT** keyword is specified, only the system software executables are transferred. At this point, the databases on PMEM/MEMA and SMEM/MEMB should be the same.

BMTR = Backup memory transfer
FROM = The FROM field specifies the source for backup memory transfer.
TO = The TO field specifies the destination for backup memory transfer.
EXCT = Executables. This keyword causes a transfer of only the system software executables from one memory card to the other.

Step	Procedure

Output similar to the following will be displayed:

For DACS II:

```
WARNING: different SD3load file exists om target: PMEM
OLD (PMEM) : SD3xx 1.0.1 (00090 98/01/29 9:31:38
NEW (SMEM) : SD3xx 1.0.1 (0010) 98/02/03 16:25:18 2 NPC's
may be affected
```

Do you still wish to continue overwrite this file?
(Y/N):

For DACS II ISX:

```
WARNING: different SD3load file exists on target: MEMA
OLD (MEMA): SD3xx 1.0.1 (0009) 98/01/29   9:31:38
NEW (MEMB): SD3xx 1.0.1 (0010) 98/02/03  16:25:18
2 NPCs may be affected

Do you still wish to continue overwrite of this file? [y/N]:
```

20 Enter **Y!** Output similar to the following will be displayed:

For DACS II:

```
Installing DSP load file: 4.01/SD3load, XXXXXX bytes from
SMEM to PMEM
```

Installation Complete, Number of files installed from
SMEM to PMEM: 1.

For DACS II ISX:

```
Installing DSP load file: 1.04/SD3load, xxxxxx bytes from
MEMB to MEMA

Installation Complete, Number of files installed from MEMB
to MEMA: 1
```

21 Enter **INSTALL!** and then select "**1. List DSPP Load Files**" to verify that the DSP software application is on both memory cards:

22 To exit the DSP Platform Load Installation Utility enter **Q!**

The following message will then be displayed:

```
INSTALL QUIT
```

Step	Procedure

23 To verify that the correct application software was loaded on both memory cards, enter

UTL::QRY,MEMSTAT!

Information will be displayed for the contents of MC RAM, PMEM/MEMA, and SMEM/MEMB. The following information will be displayed regarding the contents of each memory device that can be accessed:

- Software release of the system software
- Software release of the database
- Date and time stamp of the database
- Frame ID and Unique ID of the system.

Before the MC can be restored to the In Service state, any memory card discrepancies which may occur must be resolved. Do not reset the system at this time.

24 To restore the MC to the In Service state, enter the following command:

RST::MC!

Where:

MC = Main Controller

If the command is denied because the memory card diagnostics failed, this may be an indication that the system could not determine which memory card to boot from. If this occurs, enter **UTL::QRY,MEMSTAT!** again to examine the contents of the system memory devices. If the reason for the denial still cannot be determined, contact your Technical Support personnel.

Upgrading the Digital Signal Processing (DSP) Platform Application Software

This procedure is used to upgrade the DSP Platform application software that has been previously installed onto a memory card. In this procedure, the memory card in PMEM/MEMA contains the latest copy of the generic system software executables, system database, and the current DSP applications. The memory card in slot SMEM/MEMB contains the DSP distribution card.

Step	Procedure

1 Make sure that the memory card that is equipped and restored in PMEM/MEMA contains a current copy of the generic system executables, system database, and DSP applications.

2 Login as the Frame Administrator (USER DAX) or as a user that has Restricted Maintenance privileges.

3 Enter the following command to place the MC in the MCOND service state:

RST::MC,MCOND!

Where:

MC = Main Controller
MCOND = Maintenance Condition

4 Enter the following command to remove SMEM/MEMB from service:

RMV::SMEM! (for DACS II)
RMV::MEMB! (for DACS II ISX)

5 Physically remove the memory card in the SMEM/MEMB slot from the system and place it in a safe place, it will be reinserted later in this procedure.

6 Replace the memory card that was in SMEM/MEMB with the memory card that contains the DSP Platform software application.

7 Enter the following command line to restore SMEM/MEMB to service:

RST::SMEM! (for DACS II)
RST::MEMB! (for DACS II ISX)

The memory card in SMEM/MEMB is not over-written by the system because the system is in MCOND.

8 Enter the following command line to upgrade the DSP Platform software executables:

INSTALL!

Step	Procedure

Output similar to the following will be displayed:

```
******* DSP PLATFORM - LOAD INSTALLATION UTILITY *****

        1.  List DSPP Load Files
        2.  Install DSPP Load Files
        3.  Remove DSPP Load Files

Enter number of command [1-3], or Q to QUIT:
```

9 Enter **1!** to list the DSP Platform load files that reside on the memory cards in PMEM/MEMA and SMEM/MEMB.

Output similar to the following will be displayed:

For DACS II:

```
DSP LOADS ON MEMORY CARDS:

========== LOADS ON PMEM: (DACS II CARD) ============
NAME       BYTES  TYPE   VERSION        DATE BUILT
---------- ------ ---- ------------ -----------------
SD3load    XXXXXX  SD3 1.XX.XX-0005 XX/XX/XX XX:XX:XX

======= LOADS ON SMEM: (DSP DISTRIBUTION CARD) ======
NAME       BYTES  TYPE    VERSION       DATE BUILT
--------- ------ ----- ------------ -----------------
SD3load   XXXXXX   SD3 1.XX.XX-0006 XX/XX/XX XX:XX:XX

--------------------------------------------------
```

Step	Procedure

For DACS II ISX:

```
DSP LOADS ON MEMORY CARDS:

========== LOADS ON MEMA: (ISX CARD) ================
NAME       BYTES  TYPE   VERSION        DATE BUILT
---------- ------ ---- ------------ -----------------
SD3load    XXXXXX  SD3 1.XX.XX-0005 XX/XX/XX XX:XX:XX

===== LOADS ON MEMB: (DSP DISTRIBUTION CARD) ========
NAME       BYTES  TYPE    VERSION       DATE BUILT
--------- ------ ----- ------------ -----------------
SD3load   XXXXXX   SD3 1.XX.XX-0006 XX/XX/XX XX:XX:XX

-------------------------------------------------
```

NOTE:
The output indicates that the memory cards in slots PMEM/MEMA and SMEM/MEMB contain different versions of the same DSP application. The memory card in slot SMEM/MEMB is a DSP distribution card.

The load installation menu will also be displayed as shown:

```
******* DSP PLATFORM - LOAD INSTALLATION UTILITY *****

        1.  List DSPP Load Files
        2.  Install DSPP Load Files
        3.  Remove DSPP Load Files

Enter number of command [1-3], or Q to QUIT:
```

Step	Procedure

10 Enter **2!** to upgrade the DSP Platform software executables.

Output similar to the following will be displayed:

For DACS II:

```
WARNING: different SD3load file exists om target: PMEM
OLD (PMEM) : SD3xx 1.0.1 (00090 98/01/29 9::31:38
NEW (SMEM) : SD3xx 1.0.1 (0010) 98/02/03 16:25:18 2 NPC's
may be affected
Do you still wish to continue overwrite this file?
(Y/N):
```

For DACS II ISX:

```
WARNING: different SD3load file exists on target: MEMA
OLD (MEMA): SD3xx 1.0.1-XXXX XX/XX/XX XX:XX:XX
NEW (MEMB): SD3xx 1.0.1-XXXX XX/XX/XX XX:XX:XX
X NPCs may be affected
Do you wish to continue overwrite of this file? [y/N]:
```

11 Enter **Y!** to upgrade the DSP Platform software executables on the memory card in PMEM/MEMA.

Output similar to the following will be displayed:

For DACS II:

```
Installing DSP load file: 4.01/SD3load, 147968 bytes from
SMEM to PMEM
Installation Complete, Number of files installed from
SMEM to PMEM: 1.
```

For DACS II ISX:

```
Installing DSP load file: 1.04/SD3load, XXXXXX bytes
from MEMB to MEMA
Installation Complete, 1 files installed from MEMB to MEMA.
```

12 Quit the INSTALL menu by entering **Q!**

13 Enter the following command to remove SMEM/MEMB from service:

RMV::SMEM! (for DACS II)

Step	Procedure

RMV::MEMB! (for DACS II ISX)

14 Remove and replace the DSP distribution card in SMEM/MEMB with the memory card that was removed from the system in step 5.

15 Enter the following command line to restore SMEM/MEMB to service:

RST::SMEM! (for DACS II)
RST::MEMB! (for DACS II ISX)

The memory card in SMEM/MEMB is not over-written by the system because the system is in MCOND.

16 Enter the following command line to ensure that the DSP application installed on PMEM/MEMA is also copied to SMEM/MEMB. When the **EXCT** keyword is specified, only the system software executables are transferred (at this point, the databases on PMEM/MEMA and SMEM/MEMB should be the same).

UTL::BMTR,FROM PMEM,TO SMEM,EXCT! (for DACS II)
UTL::BMTR,FROM MEMA,TO MEMB,EXCT! (for DACS II ISX)

When the **EXCT** keyword is specified, only the system software executables are transferred. At this point, the databases on PMEM/MEMA and SMEM/MEMB should be the same.

BMTR = Backup memory transfer

FROM = The FROM field specifies the source for backup memory transfer.

TO = The TO field specifies the destination for backup memory transfer.

EXCT = Executables. This keyword causes a transfer of only the system software executables from one memory card to the other.

17 To restore the MC to the In Service state (with the memory cards that are in PMEM/MEMA and SMEM/MEMB), enter the following command:

RST::MC!

Where:

MC = Main Controller

When the **RST::MC** command has been executed, the application software upgrade on the DSP Platform (TG193B) circuit pack is initiated. This may cause a momentary service interruption.

Step	Procedure

If the command is denied because the memory card diagnostics failed, this may be an indication that the system could not determine which memory card to boot from. If this occurs, enter the following command line to examine the contents of the system memory devices:

`UTL::QRY,MEMSTAT!` Information will be displayed for the contents of MC RAM, PMEM/MEMA, and SMEM/MEMB. The following information will be displayed regarding the contents of each memory device that can be accessed:

- Software release of the system software
- Software release of the database
- Date and time stamp of the database
- Frame ID and Unique ID of the system.

Before the MC can be restored to the In Service state, any memory card discrepancies which may occur must be resolved. Do not reset the system at this time.

Listing Application Releases Previously Installed

This procedure is used to list the application releases that have previously been installed onto a memory card. Once a DSP application has been installed, the memory card that contains the system software and system database will also contain the DSP application. This procedure assumes that the memory cards that contain the DSP application reside in both PMEM/MEMA and SMEM/MEMB. In the sample output shown in this procedure, both PMEM/MEMA and SMEM/MEMB contain the same DSP application.

Step	Procedure

1 Enter the following command to examine the contents of the system memory devices:

UTL::QRY,MEMSTAT!

Output similar to the following will be displayed:

[O.51001]

For DACS II:

```
M 01:18:55 31,00 1 UTL QRY MEMSTAT  8 LN MSG:
DEV   EXCT     DBASE    DATE      TIME      FID  UID
RAM   08.02.2  08.02.2  31/12/99  01:18:49  31   NCEF
PMEM  08.02.2  08.02.2  31/12/99  01:13:17  31   NCEF
SMEM  08.02.2  08.02.2  31/12/99  01:13:17  31   NCEF
DEV   APPLICATION TYPE  DATE      VERSION
PMEM  SD3               10/14/98  1.0.2
SMEM  SD3               10/14/98  1.0.2              EOM

M 01:18:55 31,00 1 UTL QRY MEMSTAT  5 LN MSG:
FPKG      DBSN        FCSN                 STATE
00037F7F  1234567890  1234567890           OOS
00037FFF  1234567890  UD4024AC037          IS
00037FFF  1234567890  UD4024AC045          IS        COMPL
```

Step	Procedure

For DACS II ISX:

```
M hh:mm:ss xy,ww n[vv] UTL QRY MEMSTAT  e LN MSG:
DEV   EXCT     DBASE    DATE      TIME      FID  UID
RAM   gg.pp.r  gg.pp.r  aa/bb/yr  hr:mn:sc  fg   <uid>
MEMA  gg.pp.r  gg.pp.r  aa/bb/yr  hr:mn:sc  fg   <uid>
MEMB  gg.pp.r  gg.pp.r  aa/bb/yr  hr:mn:sc  fg   <uid>
DEV   APPLICATION TYPE  DATE      VERSION (LID)
MEMA  SDx               aa/bb/yr  gen.iss.rel (load)
                  .
                  .
[MEMA  SDx               aa/bb/yr  gen.iss.rel (load)]
MEMB  SDx               aa/bb/yr  gen.iss.rel (load)
                  .
                  .
[MEMB  SDx               aa/bb/yr  gen.iss.rel (load)]
UTL QRY MEMSTAT COMPL
```

For a description of each field, refer to the **UTL::QRY,MEMSTAT** command (I.51001) in the *DACS II* or *DACS II ISX Command and Message Manual.*

NOTE:
The information on application releases is located in the latter section of the output.

Removing a DSP Platform Application Release From a Memory Card

This procedure is used to remove DSP application software from a memory card. Please note that the DSP application software may be removed from a memory card that resides in either PMEM/MEMA or SMEM/MEMB. In this procedure, the DSP application software will first be removed from the memory card that is in PMEM/MEMA and then from the memory card that is in SMEM/MEMB. Both memory cards should always be kept in synchronization.

Step	Procedure

1 Make sure that the DSP Platform TG193B card(s) grown for the DMB application are removed from service and degrown (using the **RMV::NPC** and **DGRTH::NPC before** removing the application.

2 Make sure that the memory card that is restored in PMEM/MEMA contains a current copy of the generic system executables, system database, and the DSP application.

3 Login as the Frame Administrator (USER DAX) or as a user that has Restricted Maintenance privileges.

4 Enter the following command to place the MC in the MCOND service state:

RST::MC,MCOND!

Where:

MC = Main Controller
MCOND = Maintenance Condition

5 Enter the following command line to display the DSP load installation utility menu:

INSTALL!

Output similar to the following will be displayed:

```
******* DSP PLATFORM - LOAD INSTALLATION UTILITY *****

        1.  List DSPP Load Files
        2.  Install DSPP Load Files
        3.  Remove DSPP Load Files

Enter number of command [1-3], or Q to QUIT:
```

Step	Procedure

6 Enter **1!** to list the DSP Platform load files that reside on the memory cards residing in PMEM/MEMA and SMEM/MEMB.

Output similar to the following will be displayed:

For DACS II:

```
DSP LOADS ON MEMORY CARDS:

========== LOADS ON PMEM: (DACS II CARD) ============
NAME       BYTES  TYPE    VERSION       DATE BUILT
--------- ------ ----- ------------ -----------------
SD3load   XXXXXX   SD3 1.00.01-XXXX XX/XX/XX XX:XX:XX

========== LOADS ON SMEM: (DACS II CARD) ============
NAME       BYTES  TYPE    VERSION       DATE BUILT
--------- ------- ---- ------------ -----------------
SD3load    XXXXXX  SD3 1.00.01-XXXX XX/XX/XX XX:XX:XX

-------------------------------------------------------
```

For DACS II ISX:

```
DSP LOADS ON MEMORY CARDS:

========== LOADS ON MEMA: (ISX CARD) ================
NAME       BYTES  TYPE    VERSION       DATE BUILT
--------- ------ ----- ------------ -----------------
SD3load   XXXXXX   SD3 1.00.01-XXXX XX/XX/XX XX:XX:XX

========== LOADS ON MEMB: (ISX CARD) ================
NAME       BYTES  TYPE    VERSION       DATE BUILT
--------- ------- ---- ------------ -----------------
SD3load    XXXXXX  SD3 1.00.01-XXXX XX/XX/XX XX:XX:XX

-------------------------------------------------------
```

NOTE:
In the sample output shown, the same DSP application has previously been installed on both memory cards in PMEM/MEMA and SMEM/MEMB.

Step	Procedure

The DSP load installation utility menu will again be displayed as shown below:

```
******* DSP PLATFORM - LOAD INSTALLATION UTILITY *****

        1.  List DSPP Load Files
        2.  Install DSPP Load Files
        3.  Remove DSPP Load Files

Enter number of command [1-3], or Q to QUIT:
```

7 Enter **3!**

Output similar to the following will be displayed:

For DACS II:

```
WARNING:  This function will REMOVE a DSP PLATFORM load
          from the DACS II flash card you specify.
Are you REALLY SURE you wish to proceed? [y/N]:
```

For DACS II ISX:

```
WARNING:  This function will REMOVE a DSP PLATFORM load
          from the ISX flash card you specify.
Are you REALLY SURE you wish to proceed? [y/N]:
```

8 Enter **Y!**

Output similar to the following will be displayed:

For DACS II:

```
Enter Device [A=PMEM, B=SMEM]:
```

For DACS II ISX:

```
Enter Device [A=MEMA, B=MEMB]:
```

9 Enter **A!**

Step	Procedure

Output similar to the following will be displayed:

For DACS II:

```
--------- REMOVE FILES: PMEM DEVICE --------------

       1.  Remove SD3load        (  XXXXXX bytes)
       Q.  QUIT

Enter File number to remove, or "Q" to QUIT:
```

For DACS II ISX:

```
--------- REMOVE FILES: MEMA DEVICE --------------

       1.  Remove SD3load        (  XXXXXX bytes)
       Q.  QUIT

Enter File number to remove, or "Q" to QUIT:
```

10 Enter **1!**

Output similar to the following will be displayed:

For DACS II:

```
WARNING:  This will remove SD3load on PMEM.

Are you REALLY sure? [y/N]:
```

For DACS II ISX:

```
WARNING:  This will remove SD3load on MEMA.

Are you REALLY sure? [y/N]:
```

11 Enter **Y!**

Output similar to the following will be displayed:

For DACS II:

```
File SD3load removed from PMEM.
```

Step	Procedure

For DACS II ISX:

```
File SD3load removed from MEMA.
```

The DSP load utility menu will again be displayed as shown below:

```
******* DSP PLATFORM - LOAD INSTALLATION UTILITY *****

        1.  List DSPP Load Files
        2.  Install DSPP Load Files
        3.  Remove DSPP Load Files

Enter number of command [1-3], or Q to QUIT:
```

12 Repeat steps 7—11 for the memory card that resides in SMEM/MEMB. In step 9, enter **B!** for SMEM/MEMB.

13 Enter **1!** to list the DSP Platform load files on the memory cards residing in PMEM/MEMA and SMEM/MEMB

Output similar to the following will be displayed:

For DACS II:

```
DSP LOADS ON MEMORY CARDS:

========== LOADS ON PMEM: (DACS II CARD) ============
NAME        BYTES  TYPE    VERSION      DATE BUILT
---------- ------- ---- ------------ --------------


========== LOADS ON SMEM: (DACS II CARD) ============
NAME        BYTES  TYPE    VERSION      DATE BUILT
---------- ------- ---- ------------ --------------

-------------------------------------------------
```

Step	Procedure

For DACS II ISX:

```
DSP LOADS ON MEMORY CARDS:

========== LOADS ON MEMA: (ISX CARD) ================
NAME        BYTES  TYPE    VERSION      DATE BUILT
---------- ------- ---- ------------ --------------


========== LOADS ON MEMB: (ISX CARD) ================
NAME        BYTES  TYPE    VERSION      DATE BUILT
---------- ------- ---- ------------ --------------

--------------------------------------------------
```

NOTE:
The output shown indicates that there are no DSP applications installed on either memory card in slot PMEM/MEMA or SMEM/MEMB.

To exit the DSP Platform Load Installation Utility, enter **Q!**

The following message will then be displayed:

```
INSTALL QUIT
```

14 To restore the MC to the in-service state, enter the following command:

```
RST::MC!
```

Where:

MC = Main Controller

If the command is denied because the memory card diagnostics failed, this may be an indication that the system could not determine which memory card to boot from. If this occurs, enter the following command line to examine the contents of the system memory devices:

```
UTL::QRY,MEMSTAT!
```

Step	Procedure

Information will be displayed for the contents of MC RAM, PMEM/MEMA, and SMEM/MEMB. The following information will be displayed regarding the contents of each memory device that can be accessed:

- Software release of the system software
- Software release of the database
- Date and time stamp of the database
- Frame ID and Unique ID of the system.

Before the MC can be restored to the In Service state, any memory card discrepancies which may occur must be resolved. Do not reset the system at this time.

Hardware Installation Procedure

Install the Digital Signal Processing (DSP) Platform Circuit Pack

This procedure describes how to install the Digital Signal Processing (DSP) Platform TG193B circuit pack.

Step	Procedure
1	Ground yourself to the shelf by using a wrist strap.
2	Install a TG193B circuit pack in the desired Network Processing Circuit (NPC) slot on the DACS II or DACS II ISX system.

DMB Provisioning

4

Contents

DMB Provisioning

4

Overview

In order to utilize the DMB application to create digital multipoint bridges, you must provision the DSP circuit pack for use with the application. It is assumed that the facility terminating NPCs are already provisioned. There are three steps involved with the provisioning process. These steps are:

1. Growing the DSP TG193B circuit pack(s)
2. Restoring the DSP circuit pack(s)
3. Building the conference master leg and/or tributary legs by establishing the cross-connections between the appropriate facility terminating NPCs and the DSP circuit pack(s)

Each step is reversible and must be done in sequence. Therefore, the deprovisioning process should follow this order:

1. Disconnect the cross-connections
2. Remove the DSP circuit pack(s)
3. Degrow the DSP circuit pack(s)

Any attempt to perform these actions out of sequence will result in command denial.

One or more DSP circuit packs can be used with this application.

This chapter outlines the procedures for performing each of the provisioning steps for the DMB.

Growing/Degrowing the DSP Application Circuit Pack

Growing the DSP Application Circuit Pack

This procedure describes how to grow the DSP TG193B circuit pack for the DMB application. Growing a DSP circuit pack places the circuit pack on the DACS equipment list.

NOTE:
The DSP circuit pack need not be physically equipped before issuing the **GRTH** command.

The DMB application can run on one or more DSP TG193B circuit packs. The NPC on the DSP circuit pack used for the DMB application must be grown as an SD311 type NPC.

The **GRTH** command is described in detail in the *DACS II* and *DACS II ISX Command and Message Manual*.

Step	Procedure

1 Enter the following command line to grow the TG193B circuit pack for the application:

GRTH::NPC <p_npc>-<q_npc>,TYPE SD311!

Where:

GRTH = Grow

NPC = Network Processing Circuit

<p_npc> = The 3- or 4-digit NPC number (always an odd number) that is either a single NPC or the first NPC of a range specification

When entering the NPC number, the leading zeroes may be omitted. For example, for the DACS II ISX, NPC number one may be entered as 001, 01, or 1.

Step	Procedure
	<q_npc> = The optional 3- or 4-digit NPC number (always an odd number) that is the last NPC of a range specification When entering the NPC number, the leading zeroes may be omitted. **TYPE** = Type **SD311** = Type identifier for the DMB Application.

Degrowing the DSP Application Circuit Pack

This procedure describes how to degrow the DSP TG193B circuit pack for the DMB application. Degrowing a DSP circuit pack removes the circuit pack from the DACS equipment list. This is the final step of the Provisioning process. Any attempt to degrow a circuit that is In-service will be denied. This command is described in detail in the *DACS II* and *DACS II ISX Command and Message Manual*.

Step	Procedure

1 Enter the following command line to degrow the TG193B circuit pack for the application:

DGRTH::NPC <p_npc>[-<q_npc>]!

Where:

DGRTH = Degrow

NPC = Network Processing Circuit

<p_npc> = The 3- or 4-digit NPC number (always an odd number) that is either a single NPC or the first NPC of a range specification

When entering the NPC number, the leading zeroes may be omitted. For example, for the DACS II ISX, NPC number one may be entered as 001, 01, or 1.

<q_npc> = The optional 3- or 4-digit NPC number (always an odd number) that is the last NPC of a range specification

When entering the NPC number, the leading zeroes may be omitted.

Restoring/Removing the DSP Application Circuit Pack

Restoring the DSP Application Circuit Pack

This procedure restores a DSP circuit pack (TG193B) that has been installed in a Network Processing Circuit (NPC) slot. Restoring the DSP circuit pack places it into service.

NOTE:
Before restoring the DSP circuit pack, the following needs to be performed:

1. The DSP circuit pack must be physically equipped (placed in a NPC slot on the DACS II or DACS II ISX frame) before restoring the circuit pack.
2. The application software must be installed

When the command used in this procedure addresses a range of NPCs, the restoral of two or more consecutive NPCs in a range or even all of the NPCs in a Network Processing Sub-Module (NPSM) can be denied with a summary message for the following conditions:

- A range command addressing NPCs crosses an NPSM boundary and the NPSM is unequipped
- Addressed NPCs are unequipped.

When a restore command for a range of NPCs is denied for successive NPCs in the range for the same reason, the summary denial message identifies the relevant range of NPCs and the reason for denial. The generation of the remaining completion or denial responses resumes at the next NPC and continues to the end of the addressed range. Execution of this command may be stopped by entering the **ABT** command (abort).

The **RST::NPC** command is described in detail in the *DACS II* and *DACS II ISX Command and Message Manual*.

Step	Procedure

1 Enter the following command to restore an NPC to service:

RST::NPC <p_npc>[-<q_npc>]!

Where:

RST = Restore

NPC = Network Processing Circuit

<p_npc> = The 3- or 4-digit NPC number that is either a single NPC or the first NPC of a range specification

When entering the NPC number, the leading zeroes may be omitted.

<q_npc> = The optional 3- or 4-digit NPC number that is the last NPC of a range specification

When entering the NPC number, the leading zeroes may be omitted.

Removing the DSP Application Circuit Pack

This procedure removes a DSP circuit pack (TG193B) that has been installed in a Network Processing Circuit (NPC) slot. Removing the DSP circuit pack places it out of service.

This command is described in detail in the *DACS II* and *DACS II ISX Operation and Maintenance Manual*.

Step	Procedure

1 Enter the following command to remove an NPC from service:

RMV::NPC <p_npc>[-<q_npc>],[INCL]!

Where:

RMV = Remove

NPC = Network Processing Circuit

<p_npc> = The 3- or 4-digit NPC number that is either a single NPC or the first NPC of a range specification

When entering the NPC number, the leading zeroes may be omitted.

<q_npc> = The optional 3- or 4-digit NPC number that is the last NPC of a range specification

When entering the NPC number, the leading zeroes may be omitted.

INCL = Inclusive

Establishing Cross-connections

Establish DMB Cross-connection

This procedure is used to create a two-way cross-connection between the specified FROM and TO end terminations. This is used to connect the DS0 leg to a multipoint circuit on the DSP circuit pack.

Step	Procedure

1 Enter the following command line to establish a leg on the DMB circuit:

DSPC::<p_npc>:TCON::FROM <f_npc>ddd,TO <t_npc>jjj,
MPM(fmd,tmd),<tc>[,NAM][,NTR m][,RDC][,{CUS|INCL}]!

Where:

DSPC = Execute on DSP platform

<p_npc> = The NPC number of the DSP circuit pack being addressed

TCON = Establish two-way cross-connection

FROM = From

<t_npc>, <f_npc> = Number of facility terminating NPC, or Number of DSP NPC

jjj, ddd = Channel number on facility terminating NPC, or Conference number on DSP NPC

TO = To

MPM = Multipoint mode

fmd = FROM end of the circuit (SYM, BRD, BBL, or LEG)

Step	Procedure

tmd = TO end of the circuit (SYM, BRD, BBL, or LEG)

For a DMB conference, the following fmd,tmd are valid:

- LEG,BBL or BBL,LEG
- LEG,BRD or BRD,LEG
- SYM,LEG or LEG,SYM

For concatenation of conferences, the following fmd,tmd are valid:

- BRD,BBL or BBL,BRD
- SYM,SYM

<tc> = Trunk Conditioning

The following is the ONLY option allowed for signaling:

- TRSP

  The following insertion word options are allowed:

  - IW-X-pq (pq is a user-specified hexidecimal code)
  - TRB (for T1 NPCs only, the standard trouble code, IW-X-E4)
  - Omitted (for CEPT NPCs only, will default to IW-X-FF)

NAM = (for E1 type NPCs only) No A- to μu-law

The A-law to μu-law and μu-law to A-law code translators on E1 type NPC are disabled.

Step	Procedure

NTR = No Transmit

m = The direction toward which transmission is shut off

m	*Explanation*
F	FROM
T	TO

RDC = Red Circuit

CUS = (For DACS II only) Customer-controlled circuit

INCL = Inclusive

A termination designated as CUS or RDC or both cannot be disconnected or modified without using the INCL keyword. INCL must also be used to reconnect a termination previously marked CUS to other terminations.

Figure 4-1 illustrates a two-way cross-connection which does not use the NTR option. The termination status of this cross-connection can be changed using a **CHG** command discussed later in this chapter.

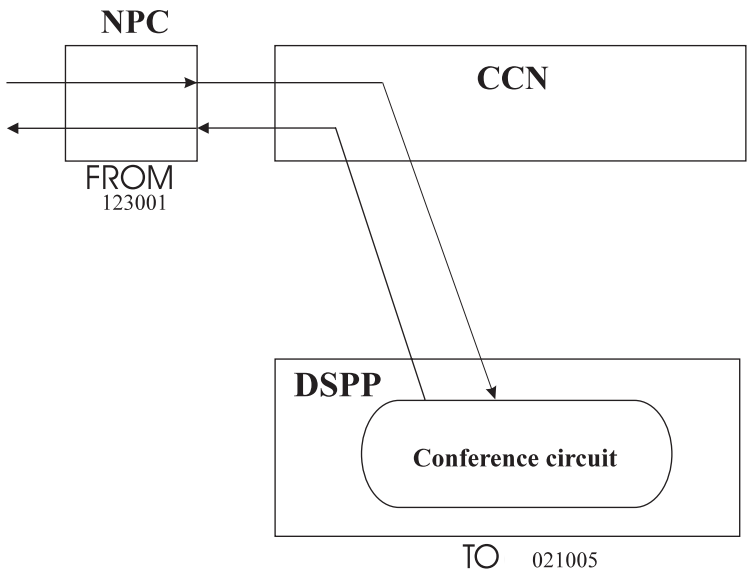

Figure 4-1. Two-Way Cross-connection Without NTR

The following command establishes this cross-connection:

```
DSPC::021:TCON::FROM 123001,TO 021005,MPM(LEG,SYM),\
TRSP,TRB!
```

When the NTR option is used to terminate transmission flow in either the TO or FROM direction, the **only** way to change the termination status is by disconnecting the cross-connection (discussed later in this chapter) and re-establishing it.

Figure 4-2 illustrates a two-way cross-connection using NTR on the TO side. The transmission path towards the TO direction (the DSP circuit pack) is terminated.

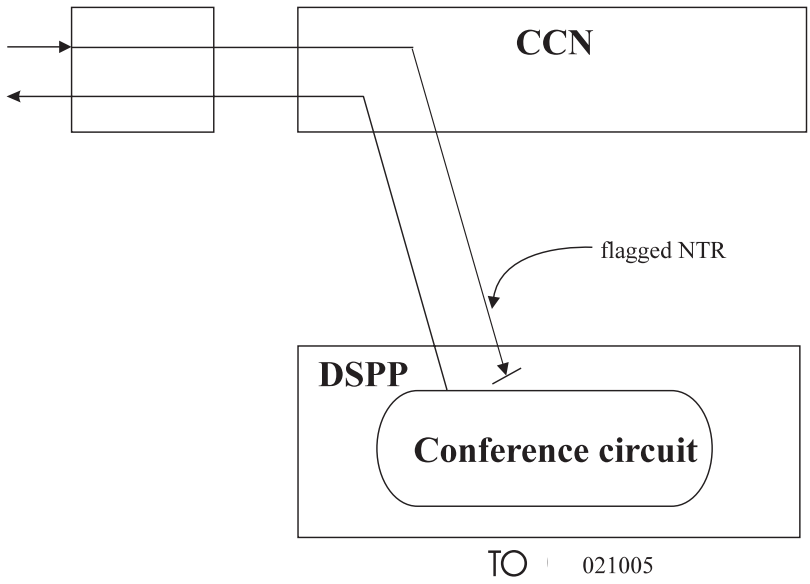

Figure 4-2. Two-Way Cross-connection Using NTR T

The following command establishes this cross-connection:

```
DSPC::021:TCON::FROM 123001,TO 021005,MPM(LEG,SYM),\
TRSP,TRB,NTR T!
```

Figure 4-3 illustrates a two-way cross-connection using NTR F. The DSP circuit pack sends the insertion word (IW) towards the FROM direction (the facility terminating NPC).

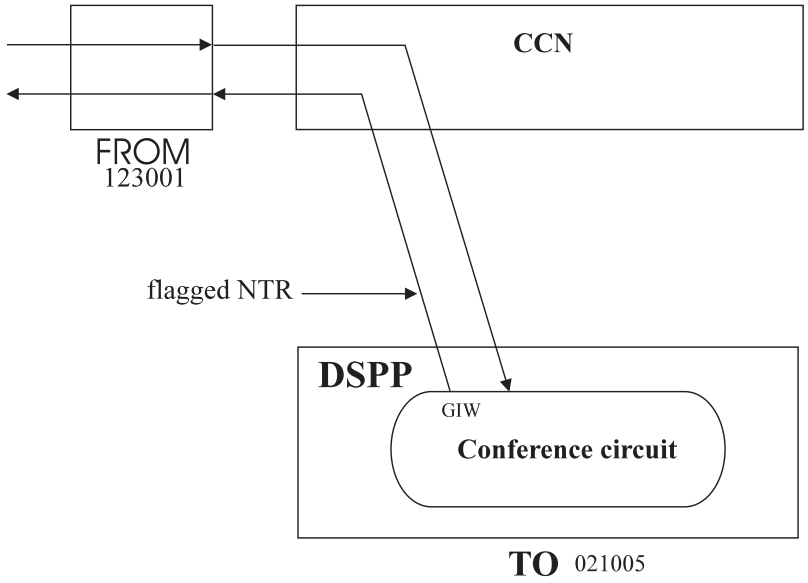

Figure 4-3. Two-Way Cross-connection Using NTR F

The following command establishes this cross-connection:

```
DSPC::021:TCON::FROM 123001,TO 021005,MPM(LEG,SYM),\
TRSP,TRB,NTR F!
```

Establish Terminated DMB Cross-connection

This procedure is used to create a terminated two-way cross-connection between the specified FROM and TO end terminations. This is used to connect the DS0 leg to a multipoint circuit on the DSP circuit pack.

Step	Procedure

1 Enter the following command line to establish a terminated leg on the DMB circuit.

DSPC::<p_npc>:TCNT::FROM <f_npc>ddd,TO <t_npc>jjj,
MPM(fmd,tmd),<tc>[,NAM][,NTR m][,RDC][,{CUS|INCL}]!

Where:

DSPC = Execute on DSP platform

<p_npc> = The NPC number of the DSP circuit pack being addressed.

TCNT = Establish two-way cross-connection

FROM = From

<t_npc, <f_npc> = Number of facility terminating NPC, or Number of DSP NPC

jjj, ddd = Channel number on facility terminating NPC, or Conference number on DSP NPC

TO = To

MPM = Multipoint mode

fmd = FROM end of the circuit (SYM, BRD, BBL, or LEG)

Step	Procedure

tmd = TO end of the circuit (SYM, BRD, BBL, or LEG)

For a DMB conference, the following fmd,tmd are valid:

- LEG,BBL or BBL,LEG
- LEG,BRD or BRD,LEG
- SYM,LEG or LEG,SYM

For concatenation of conferences, the following fmd,tmd are valid:

- BRD,BBL or BBL,BRD
- SYM,SYM

<tc> = Trunk Conditioning

The following is the ONLY option allowed for signaling:

- TRSP

  The following insertion word options are allowed:

  - IW-X-pq (pq is a user-specified hexidecimal code)
  - TRB (for T1 NPCs only, the standard trouble code, IW-X-E4)
  - Omitted (for CEPT NPCs only, will default to IW-X-FF)

NAM = (for E1 type NPCs only) No A- to μu-law

The A-law to μu-law and μu-law to A-law code translators on E1 type NPC are disabled.

Step	Procedure

NTR = No Transmit

m = The direction toward which transmission is shut off

m	*Explanation*
F	FROM
T	TO

RDC = Red Circuit

CUS = (For DACS II only) Customer-controlled circuit

INCL = Inclusive

A termination designated as CUS or RDC or both cannot be disconnected or modified without using the INCL keyword. INCL must also be used to reconnect a termination previously marked CUS to other terminations.

In a terminated cross-connection, the transmission path towards the TO side is always terminated.

Figure 4-4 illustrates a terminated two-way cross-connection which does not use the NTR option. The DSP circuit pack sends IW towards the FROM direction. The termination status of this cross-connection can be changed using a **CHG** command discussed later in this chapter.

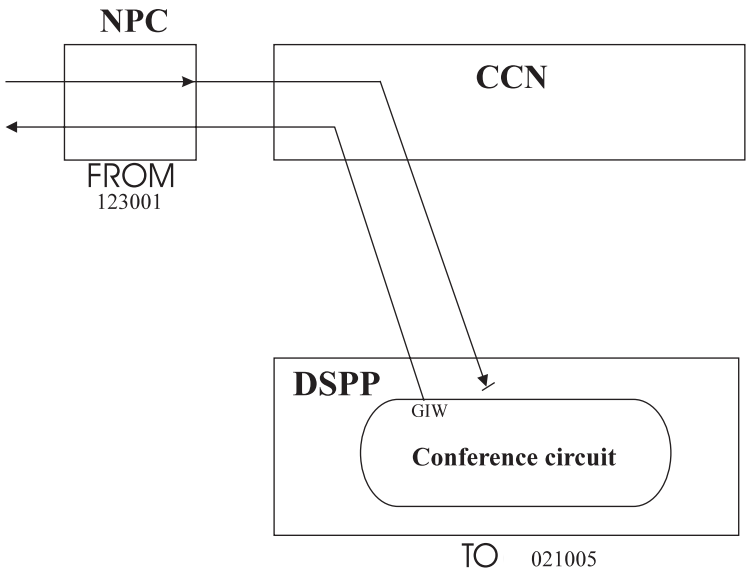

Figure 4-4. Terminated Two-Way Cross-connection Without NTR

The following command establishes this cross-connection:

```
DSPC::021:TCNT::FROM 123001,TO 021005,MPM(LEG,SYM),\
TRSP,TRB!
```

Figures 4-5 and 4-6 illustrate terminated two-way cross-connections using the NTR option. The **only** way to change the termination status for circuits using the NTR option is to disconnect the circuit (discussed later in this chapter) and re-establish it.

In both cases, the DSP circuit pack sends IW towards the facility terminating NPC.

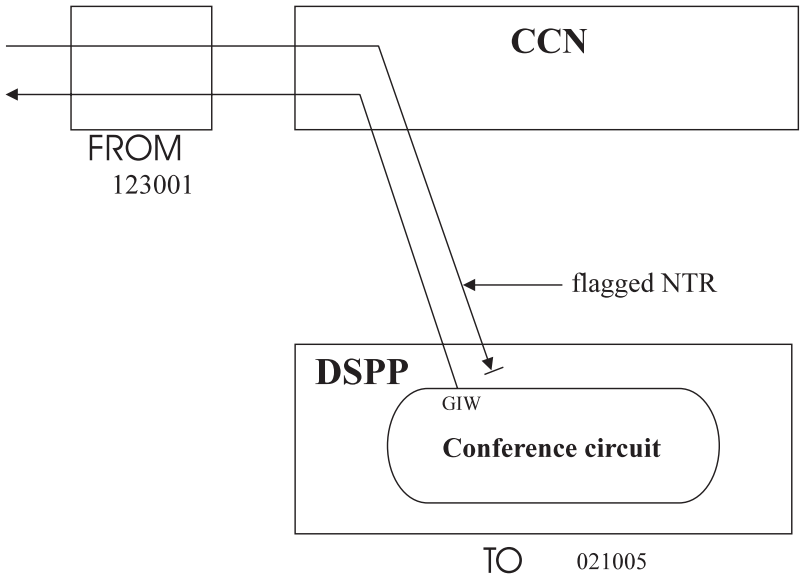

Figure 4-5. Terminated Two-Way Cross-connection With NTR T

The following command establishes this cross-connection:

```
DSPC::021:TCNT::FROM 123001,TO 021005,MPM(LEG,SYM),\
TRSP,TRB,NTR T!
```

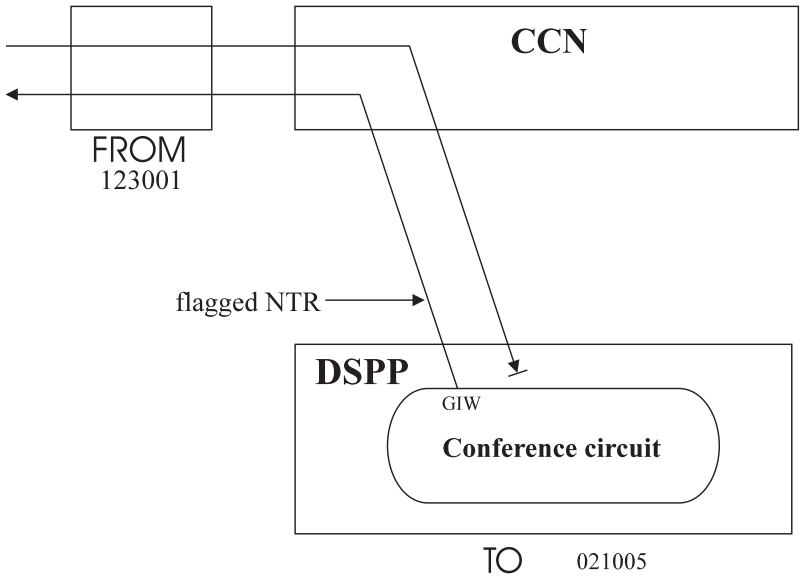

Figure 4-6. Terminated Two-Way Cross-connection With NTR F

The following command establishes this cross-connection:

```
DSPC::021:TCNT::FROM 123001,TO 021005,MPM(LEG,SYM),\
TRSP,TRB,NTR F!
```

Change DMB Cross-connection Termination Status

This procedure is used to change the termination status of a leg or legs of a specified cross-connected circuit which was established by a **TCON** or **TCNT** command. The termination status can be either Normal or Terminated in the TO direction, the FROM direction, or BOTH directions.

Step	Procedure

1 Enter the following command to change the termination status of a DMB cross-connection:

DSPC::<p_npc>:CHG::FROM <f_npc>ddd,TO <t_npc>jjj,
{TLA|TLR}{F|T|B|L|G|A}[INCL]!

Where:

DSPC = Execute on DSP platform

<p_npc> = The NPC number of the DSP circuit pack being addressed.

CHG = Change

FROM = From

<t_npc>, <f_npc> = Number of FROM facility terminating NPC, or DSP NPC number

jjj, ddd = Channel number on facility terminating NPC, or Conference number on DSP NPC

TLA = Terminate and Leave Active (Terminated operation)

TLR = Terminate and Leave Release (Normal operation)

F = Towards the FROM termination

T = Towards the TO termination

B = Towards BOTH terminations

L = Towards the facility channels

G = Towards the DMB channels

A = Towards ALL (facility and bridge) channel terminations

Figure 4-7 illustrates a typical symmetrical bridge prior to issuing a **CHG** command.

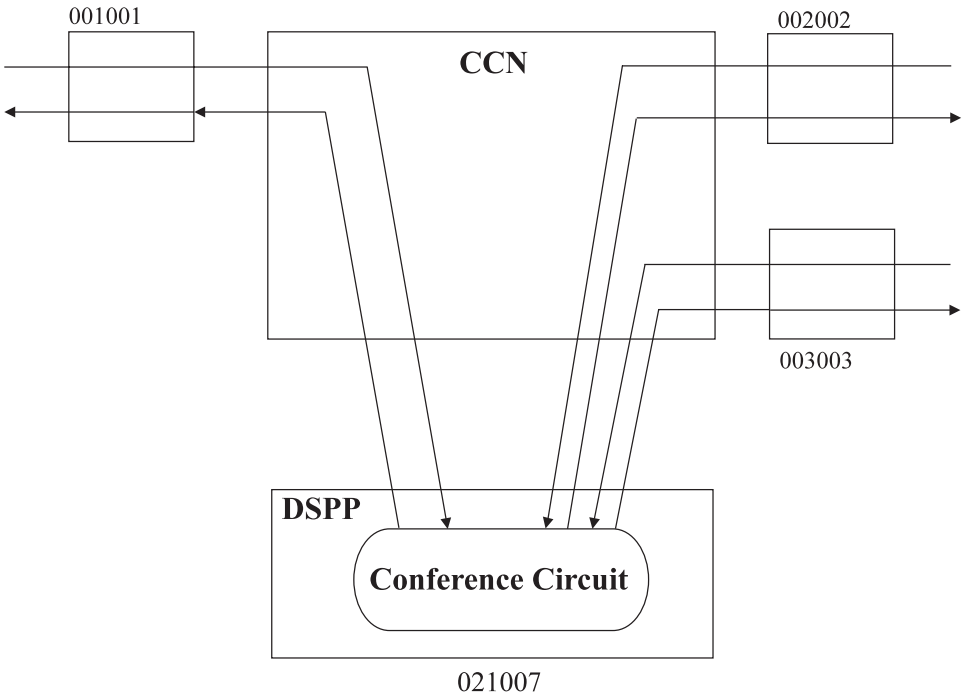

Figure 4-7. Typical Conference Bridge

The following commands are used to establish this bridge:

```
DSPC::021:TCON::FROM 001001,TO 021007,MPM(LEG,SYM),
TRSP,TRB!
DSPC::021:TCON::FROM 002002,TO 021007,MPM(LEG,SYM),
TRSP,TRB!
DSPC::021:TCON::FROM 003003,TO 021007,MPM(LEG,SYM),
TRSP,TRB!
```

The following figures illustrate two-way cross-connections using the various **CHG** command options.

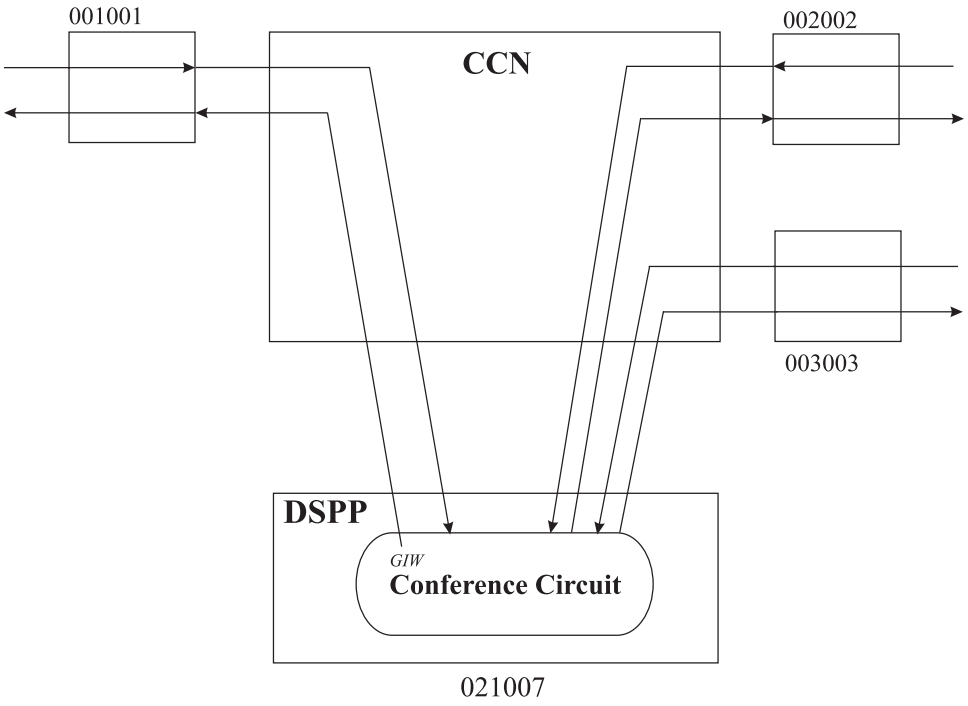

Figure 4-8. Cross-connection After Using TLA F

The following command establishes this change:

```
DSPC::021:CHG::FROM 001001,TO 021007,TLA F!
```

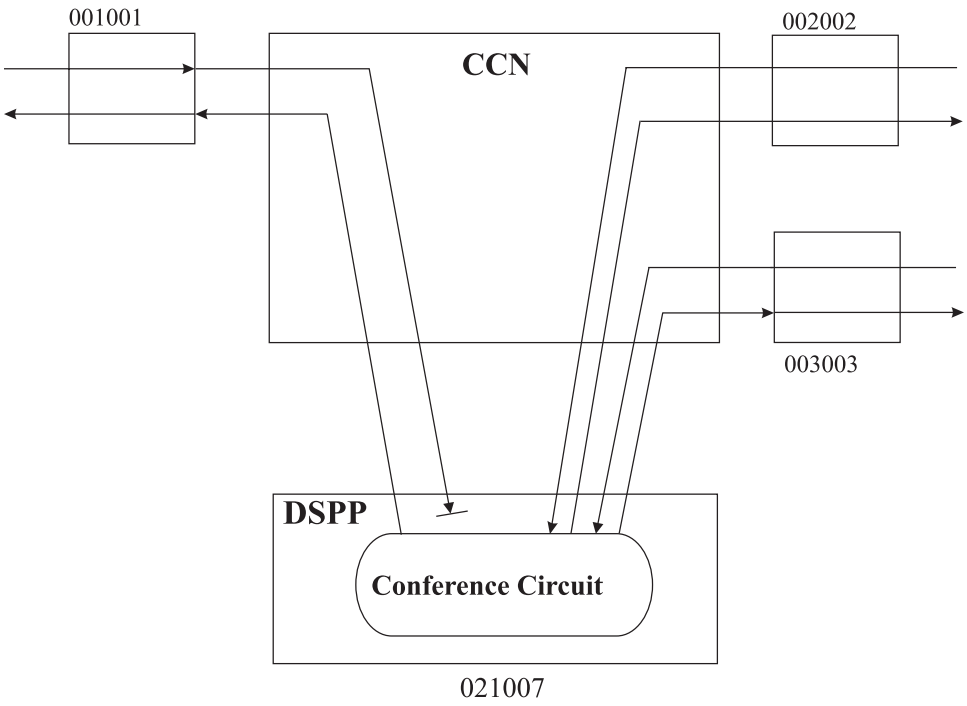

Figure 4-9. Cross-connection After Using TLA T

The following command establishes this change:

```
DSPC::021:CHG::FROM 001001,TO 021007,TLA T!
```

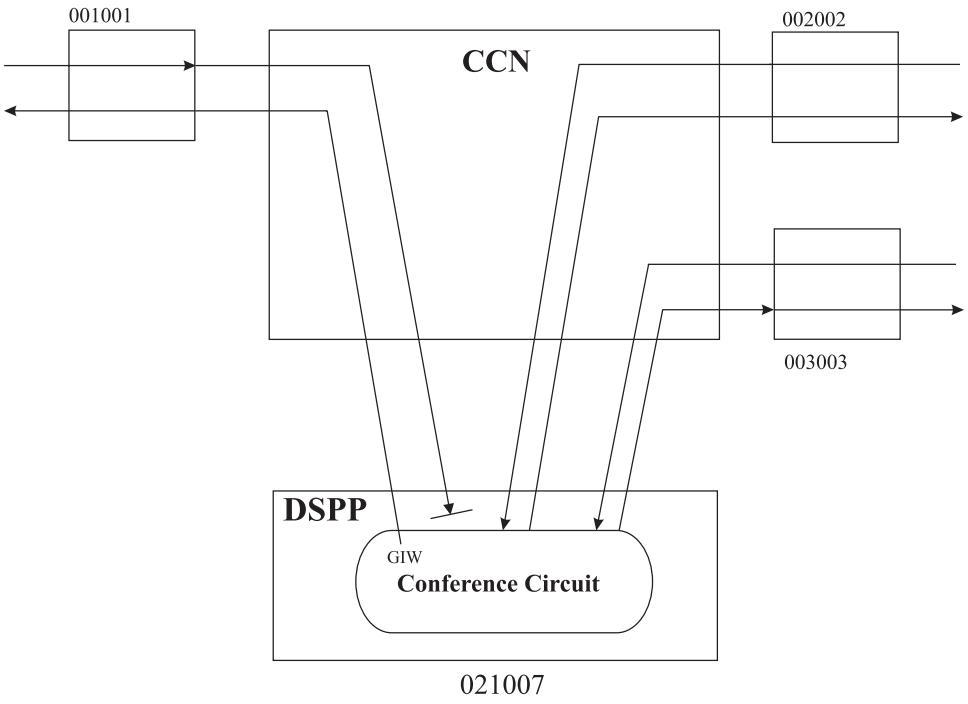

Figure 4-10. Cross-connection After Using TLA B

The following command establishes this change:

```
DSPC::021:CHG::FROM 001001,TO 021007,TLA B!
```

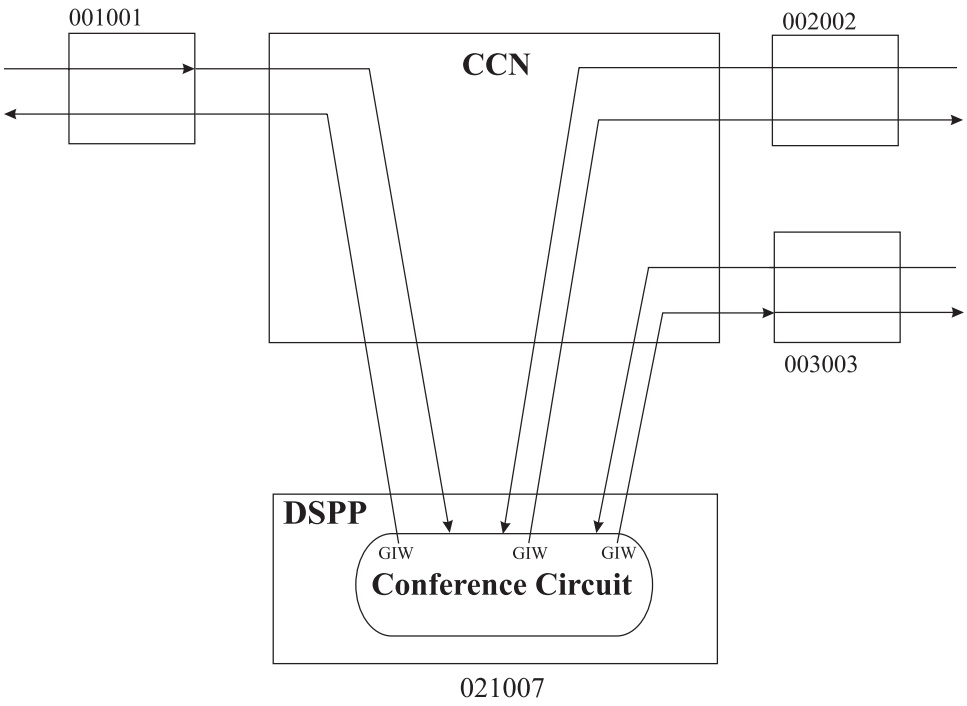

Figure 4-11. Cross-connection After Using TLA L

The following command establishes this change:

```
DSPC::021:CHG::FROM 001001,TO 021007,TLA L!
```

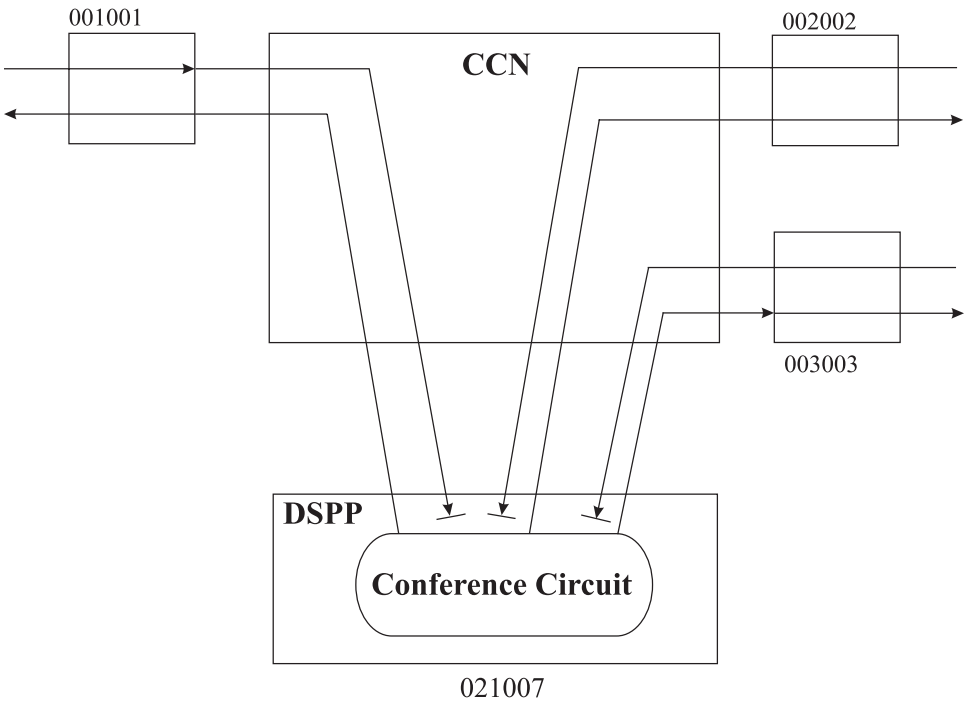

Figure 4-12. Cross-connection After Using TLA G

The following command establishes this change:

```
DSPC::021:CHG::FROM 001001,TO 021007,TLA G!
```

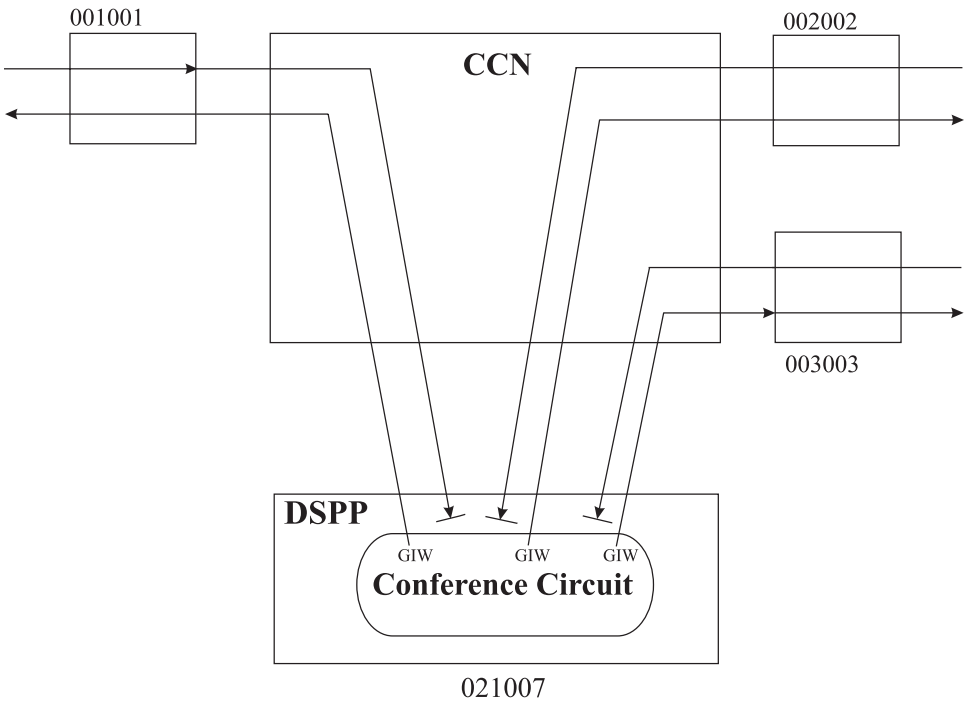

Figure 4-13. Cross-connection After Using TLA A

The following command establishes this change:

```
DSPC::021:CHG::FROM 001001,TO 021007,TLA A!
```

Change DMB Circuit Parameters

The procedure changes the DMB circuit parameters, such as Noise Guard (NG), Echo Suppression (ES), and Transmission Level Point (TLP) for a specified leg.

NG is used to reduce noise from a leg when the leg is idle. The default value for NG is 0 dB for Polling Data bridge and -18 dB for a Symmetrical Voice bridge.

ES is used to increase the echo return loss on a leg when it is listening. The default value for ES is 0 dB for Polling Data bridge and -18 dB for a Symmetrical Voice bridge.

TLP is used to provide gain adjustment to each leg. This ensures that each leg transmits at the same amplitude level to the bridge. The default value for TLP is 0 dB.

Step	Procedure

1 Enter the following command to change the circuit parameters of a DMB cross-connection:

DSPC::<p_npc>:CHG::FROM <f_npc>ddd,TO <t_npc>jjj
[,TLP(snn,smm)][,NG nn][,ES ee][,INCL]!

Where:

DSPC = Execute on DSP platform

<p_npc> = The NPC number of the DSP circuit pack being addressed

CHG = Change

FROM = From

<f_npc> = Number of facility terminating NPC

ddd = Channel number on facility terminating NPC

TO = To

<t_npc> = Number of DSP NPC

jjj = Conference number on DSP NPC

TLP = Transmission Level Point

snn = Incoming gain adjust parameter

Step	Procedure

smm = Outgoing gain adjust parameter

s Sign (+ or -)
nn Incoming gain adjust value (-90 to +88)
mm Outgoing gain adjust value (-90 to +88)

The values are given in steps of 2 and the units are tenths (0.1) of a decibel (dB)

NG = Noise Guard

nn = Noise Guard level setting

The setting can have the values: 00, -6, -12, or -18 dB For Symmetrical Voice bridges: default = -18 dB For Polling Data bridges: deafault = 0 dB

ES = Echo Suppression

ee = Echo Suppression level setting

The setting can have the values: 00, -6, -12, or -18 dB

For Symmetrical Voice bridges: default = -18 dB For Polling Data bridges: default = 0 dB

INCL = Inclusive

A termination designated as CUS or RDC or both cannot be disconnected or modified without using the INCL keyword. INCL must also be used to reconnect a termination previously marked CUS to other terminations.

Disconnect DMB Cross-connection

This procedure is used to disconnect the specified TO and FROM end terminations. This is used to disconnect a leg from the DMB circuit. The disconnection may be between a DMB-FTU connection or a DMB-DMB (conference concatenation) connection.

If the facility terminating NPC is not in the conference number specified, the command will deny. For additional denial messages, refer to Chapter 8.

Step	Procedure

1 Enter the following command line to disconnect a DMB cross-connection:

DSPC::<p_npc>:TDIS::FROM <f_npc>ddd,TO <t_npc>jjj\ [,INCL][,OOS][,DCC]!

Where:

DSPC = Execute on DSP platform

<p_npc> = The NPC number of DSP circuit pack being addressed.

TDIS = Disconnect cross-connection

FROM = From

<t_npc>, <f_npc> = Number of facility terminating NPC, or DSP NPC number

jjj, ddd = Channel number on the facility terminating NPC, or Conference number on DSP NPC

TO = To

DCC = Disconnect Code

If DCC is used, DACS II or DACS II ISX will insert the user-defined disconnect code and signaling into the disconnected channel as specified by the trunk conditioning.

Step	Procedure
	INCL = Inclusive A termination designated as CUS or RDC or both cannot be disconnected or modified without using the INCL keyword. INCL must also be used to reconnect a termination previously marked CUS to other terminations. **OOS** = Out of Service At least one side of the circuit (TO or FROM side) must already be out of service or command will be denied.

Querying DMB Cross-connections

Query DSP Application NPC

This procedure is used to request the number of DMB conferences and the number of legs for each conference are on a particular DSP NPC.

Step	Procedure

1 Enter the following command to query a DSP NPC:

DSPC::{<p_npc>|<p_npc>-<q_npc>|SD311}:
UTL::QRY,CMAP!

Where:

DSPC = Execute on DSP platform

<p_npc> = Number of facility terminating NPC, the first number of a range.

<q_npc> = Number of facility terminating NPC, the last number of a range.

SD311 = DSP NPC type

UTL::QRY = Query circuit

CMAP = Partial cross-connect map. Query for number of legs each DMB has on each conference on a DSP NPC.

Query DMB Conference

This procedure is used to request circuit provisioning information associated with the specified TO direction of a DMB conference. This will display all the DMB channels used for the conference and what facility terminating NPC and channel they are mapped to. For a DMB-DMB connection, the DSP NPC and psuedo channel will be in the list instead of the DSP NPC and the real channel.

Step	Procedure

1 **DSPC::<p_npc>:UTL::QRY,TO <p_npc>ccc!**

Where:

DSPC = Execute on DSP platform

<p_npc> = The NPC number of the DSP circuit pack being addressed

UTL::QRY = Query circuit

TO = To

<p_npc> = Number of facility terminating NPC

ccc = Conference number of multipoint bridge

001 - 021 for DSP NPC in DACS II ISX
001 - 021 for DSP NPC in CEPT DACS II FTM
001 - 016 for DSP NPC in a T1 DACS II FTM

DMB Test Access

5

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DMB Test Access

5

Overview

Test access for DMB circuits is performed through facility terminating NPCs which are grown as the Test Port NPCs. The legs used to make a DMB-DMB connection are unable to place under test access.

To perform the test access, a pair of test access channels within a Test Port must be connected to two unassigned channels on the DSP circuit pack: one channel used to test the TO direction of the circuit and the other channel used to test the FROM direction.

Test Ports may be provisioned on test port NPCs grown on an Enhanced Dual Di-Group Card (TG191) or a Dual Primary Card (TG192) in the usual manner. The facility side of such a Test Port NPC must be connected to test equipment in the usual manner.

NOTE:
A range of Test Ports is not allowed.

A circuit under test access can be in one of four modes:

- Monitor
  - — Monitor mode is the only mode than can be requested when a test access connection is created. In monitor mode, data transmission in the tested circuit is not interrupted.
- Split
  - — Split mode creates a two-way transmission between each side of the circuit under test and the test access NPC. In split mode, data transmission in the tested circuit is interrupted.
- Terminated
  - — Terminated mode can be entered from the monitor or split modes. This allows the ability to place one or both directions of the circuit under test in the terminated mode. When in terminated mode, the (Growth Insertion Word (GIW) code is sent towards the external facility.
- Released
  - — Release mode allows the test access, either in monitor or split mode, to resume normal transmission operation. The circuit will remain in the terminated state if it was in the terminated state while under test access.

If a craft connection used to operate a test access session is dropped, then all test access states on any legs established with that link are dropped, as if released from test access. Similarly, if the DACS II or DACS II ISX frame is reset or rebooted, then any test access connections will be released.

Creating Test Access Connections

Create Test Access Connection in Monitor Mode

This procedure is used to set up a previously unassigned Test Port to monitor a particular leg of the DMB conference. Monitor mode is the only mode than can be requested when a test access connection is created.

Step	Procedure

1 Enter the following command line to create a test access connection to a conference leg in monitor mode:

DSPC::<p_npc>:TTST::MON,TO <f_npc>ddd,TP kk!

Where:

DSPC = Execute on the DSP Platform

<p_npc> = The NPC number of DSP circuit pack being addressed.

TTST = Create test access connection

MON = Monitor mode

TO = To

TP = Test Port

<f_npc> = Number of facility terminating NPC

ddd = Channel number on that facility terminating NPC

kk = Test Port number valid between 1 and 96

Figures 5-1 and 5-2 illustrate the test access connection for the symmetrical and polling bridges, respectively, in Monitor mode.

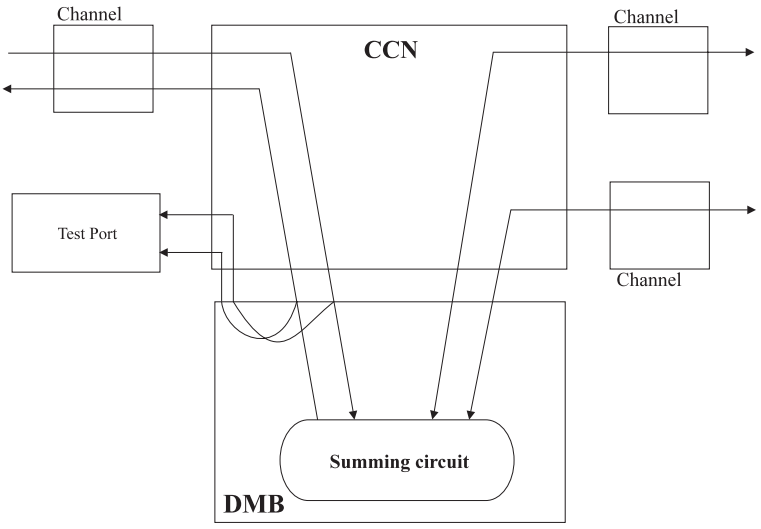

Figure 5-1. Symmetrical Voice Bridge in Monitor Mode

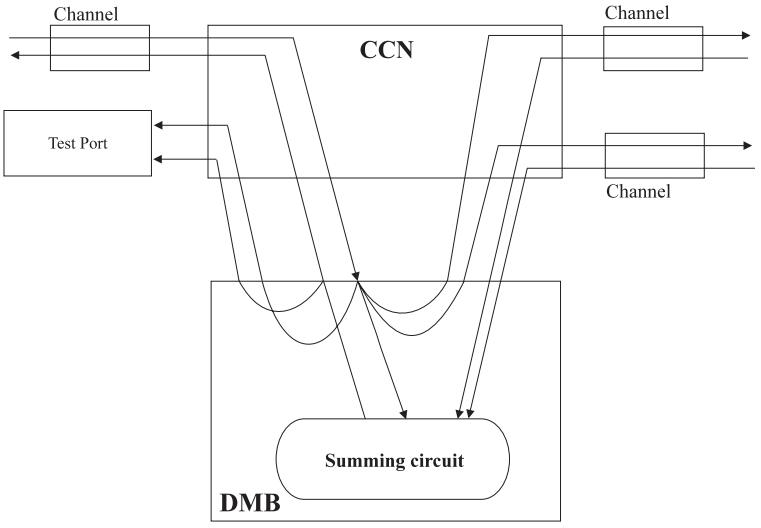

Figure 5-2. Polling Data Bridge in Monitor Mode

Changing Test Access Connections

Change Test Access Mode - Split or Monitor

This procedure is used to change a test access connection previously created in the Monitor mode to the Split mode. Additionally, if the test access connection was in Split mode, this procedure can place the connection back in the Monitor mode.

Step	Procedure

1 Enter the following command line to change the mode of a test access circuit:

DSPC::<p_npc>:TTST::{SPL|MON},TP kk!

Where:

DSPC = Execute on the DSP Platform

<p_npc> = The NPC number of DSP circuit pack being addressed.

TTST = Test access connection

TP = Test Port

kk = Test Port number valid between 1 and 96

SPL = Split mode

MON = Monitor mode

Figures 5-3 and 5-4 illustrate the test access connection of the symmetrical and polling bridge, respectively, in Split mode.

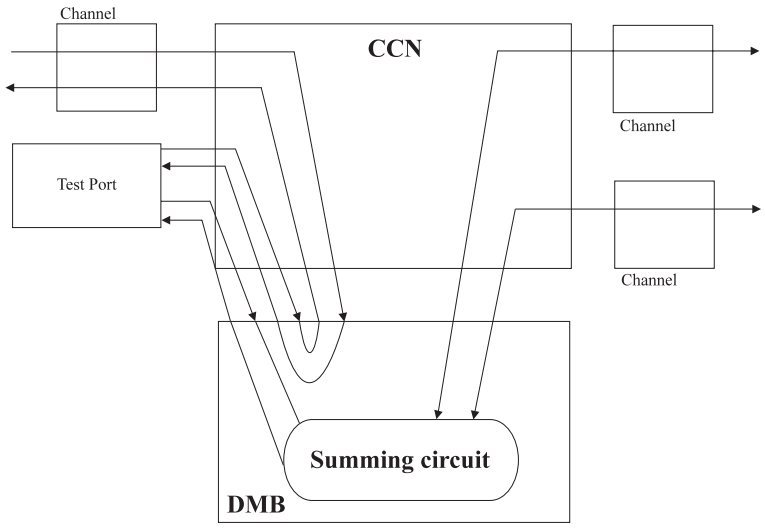

Figure 5-3. Symmetrical Voice Bridge in Split Mode

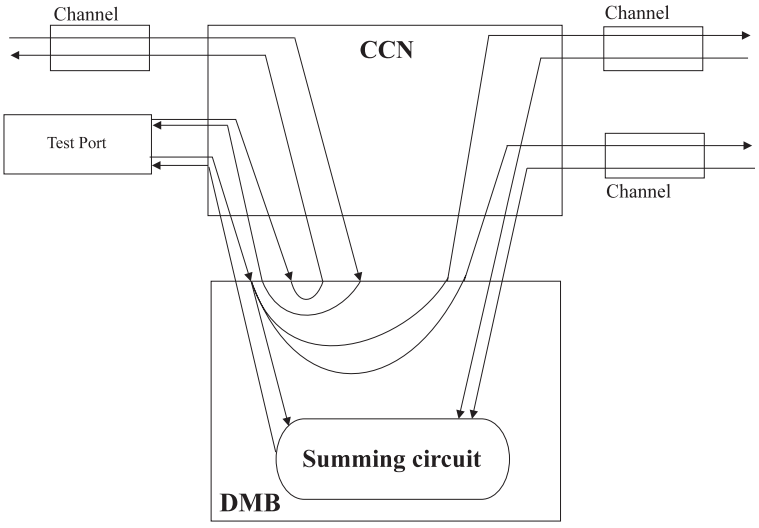

Figure 5-4. Polling Data Bridge in Split Mode

Change Termination State of a DMB Circuit in Test Access

This procedure is used to change the terminate and leave state of a test access connection. The circuit can either be terminated or released on a single side or on both the TO and FROM sides.

The Growth Insertion Word (GIW) is inserted toward the facility terminating NPC by the DSP circuit pack if the transmission on that direction is terminated.

Step	Procedure

1 Enter the following command line to change the terminate and leave state of a DMB circuit under test access:

DSPC::<p_npc>:TTST::{TLA|TLR}{F|T|B},TP kk!

Where:

DSPC = Execute on the DSP Platform

<p_npc> = The NPC number of DSP circuit pack being addressed.

TTST = Test access connection

TP = Test Port

TLA = Terminate and leave active

TLR = Release test point from terminate and leave state

F = FROM direction

T = TO direction

B = BOTH directions

kk = Test Port number valid between 1 and 96

Releasing Test Access Connections

Release a Single DMB Circuit from Test Access

This procedure is used to release a single multipoint bridge circuit from test access and restores this circuit to released or terminated state. This procedure does not affect the terminate and leave status of the released circuit.

Step	Procedure

1 Enter the following command line to release a DMB circuit from test access:

DSPC::<p_npc>:TTST::TPR,TP kk[,OOS]!

Where:

DSPC = Execute on the DSP Platform

<p_npc> = The NPC number of DSP circuit pack being addressed.

TTST = Test access connection

TPR = Remove Test Port

TP = Test Port

kk = Test Port number valid between 1 and 96

OOS = Out-of-service
Used to release cwa Test Port on an out-of-service facility terminating NPC or Test Access NPC.

Release Multiple DMB Circuits from Test Access

This procedure releases multiple multipoint bridge circuits from test access and restores these circuits to released or terminated state. If the ALL keyword is used, only those test access connections that were originally connected via the administrative link n[vv] will be released from test access. If the LINKS keyword is used, all test access connections in effect on the addressed DSP Platform circuit pack running the DMB application are released.

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 from test access.

Step	Procedure

1 Enter the following command line to release multiple DMB circuits from test access:

DSPC::<p_npc>:TTST::TPR,{ALL|LINKS}!

Where:

DSPC = Execute on the DSP Platform

<p_npc> = The NPC number of DSP circuit pack being addressed.

TTST = Test access connection

TPR = Remove Test Port

LINKS = All test access connections on the DSP circuit pack running the DMB application

ALL = All test access connections associated with link in use

Querying DMB Test Access Circuits

Query Test Access Status

The procedure is used to request the status of all Test Ports connected to a DSP circuit pack running the DMB application.

Step	Procedure

1 Enter the following command line to query the status of all Test Ports:

DSPC::{<p_npc>|<p_npc>-<q_npc>|SD311}:UTL::QRY,TPS!

Where:

DSPC = Execute on the DSP Platform

<p_npc> = NPC number of DSP NPC, the first number of a range

<q_npc> = NPC number of DSP NPC, the last number of a range

SD311 = DSP NPC type

UTL::QRY,TPS = Query

TPS = Status for all Test access channel pairs on a DSP NPC

Commands and Messages

6

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Commands and Messages

6

INTRODUCTION

1. Common Material for all Commands

This manual documents all commands and messages for the Digital Multipoint Bridge (DMB) application for both DACS II and DACS II ISX. The reader of this Command and Message Manual should become familiar with this introduction before perusing any of the individual command explanations.

In an effort to reduce redundancy in the individual command descriptions, a common syntax has been adopted to represent the hierarchical and non-hierarchical numbering of NPCs*. An example of a subrate cross-connect command using that syntax is:

```
DSPC:[FRM xy,SEQ ww]:<p_npc>:TCON::FROM <f_npc>ddd,TO <t_npc>jjj,\
MPM(fmd,tmd)[,<tc>][,NAM][,NTR m][,RDC][,{CUS|INCL}]!
```

Please note that each npc is identified as a variable string of the form **<p_npc>, <f_npc>,** or **<t_npc>**. The exact notation is defined below in this introduction and depends on what NPC addressing scheme the user choses when running on a DACS II. ON DACS II ISX only 3-digit sequential addressing is used.

In addition, other common notations and explanations are given here that have not been repeated in the individual command descriptions.

The following items are covered in this introduction:

---

* In previous DACS II documents the NPC numbering has been described in individual commands.

1. NPC Numbering
2. Channel Numbering including SLC Facilities
3. Prefix Notation for all Application Commands

All the explanations below apply to North American transmission facilities based on 24 channel DS1 circuits and International transmission facilities based on 30 channel E1 circuits.

2. NPC Numbering

For those readers not familiar with the concept of Network Processing Circuits (NPCs) and how they are addressed; here is a short explanation.

In DACS II and DACS II ISX the circuit that terminates a T1 (also called a DS1) facility is called a Network Processing Circuit (NPC). Physically these NPCs are packaged two together on what is called a Dual-Digroup card. Dual-Digroup cards are provisioned in units that are called Facility Terminating Units (FTUs) or Integrated Facility Terminating Units (IFTUs) on DACS II and Network Processing Modules (NPMs) on DACS II ISX. The physical position of a Dual-Digroup card determines its number, and it is that NPC number that is used to address the NPC.

DSP Application circuit packs (TG193Bs), on which this application, (the DMB application) runs, are also physically plugged into the same kind of card slot that is used for the Dual-Digroup cards. Thus the application cards plug into an IFTU (or FTU) on DACS II or an NPM on DACS II ISX. DSP Application cards use only the odd NPC number that is tied to the slot into which they are plugged into; the even NPC number associated with the slot is not used.

On DACS II ISX each DSP application card supports 64 channels that may be cross-connected to facility terminating NPCs or to other DSP application cards. On DACS II, if the DSP application card is provisioned in a Facility Terminating Module (FTM) (there are 4 FTMs in an IFTU or FTU), which supports DA, DE, or DS type NPCs, then only 48 channels are supported on that DSP application card. The user may increase the capacity of the DSP application card to 64 channels by provisioning it in a Facility Terminating Module (FTM) that is provisioned for International NPCs. The following command accomplishes this:

GRTH:[FRM xy,SEQ ww]:UNIT q[q],FTMI d,IMP <imp>!

Where "q[q]" is the unit number of the IFTU (FTU), "d" is the FTM number within that unit, values are "1" through "4", and "<imp>" is "75" or "120", which is the characteristic impedance (in ohms) of any International E1 NPCs that may also be provisioned within the module. If such an International FTM is only provisioned with DSP application cards then one of the impedance values must be provisioned, but it does not matter, whether 75 or 120 is selected.

DACS II also supports units that terminate DS3s, they are called DS3Us. Within each DS3U six DS3 circuits may be terminated. Within each of the DS3 circuits 28 DS1 circuits are embedded. Each of these embedded DS1 circuits is also called an NPC and is addressed individually.

Below the DACS II ISX and DACS II NPC addressing scheme are explained in detail.

2.1 NPC Numbering for DACS II ISX

Within the DACS II ISX frame all NPCs are addressed sequentially. Each of the four Network Processing Modules (NPMs) in a DACS II ISX frame holds up to 32 NPCs of type DA. The assignment of NPC numbers is as follows:

Module 1	Module 2	Module 3	Module 4
NPC 001-032	**NPC 033-064**	**NPC 065-096**	**NPC 097-128**

If a DACS II ISX has Low Speed Interface Units (LSIUs) provisioned, then only Modules 1 and 2 are provisionable for ordinary DA type NPCs. In place of Modules 3 and 4 up to 8 LSIUs may be provisioned. The LSIUs hold NPCs numbered between 65 and 128. The detailed NPC assignments by LSIU are:

LSIU 1	LSIU 2	LSIU 3	LSIU 4
NPC 065-072	**NPC 073-080**	**NPC 081-088**	**NPC 089-096**
LSIU 5	LSIU 6	LSIU 7	LSIU 8
NPC 097-104	**NPC 105-112**	**NPC 113-120**	**NPC 121-128**

2.2 NPC Numbering for DACS II

DACS II has two major ways of addressing NPCs. They are addressed either via a sequential or a hierarchical scheme. The sequential scheme divides further into a 3-digit and a 4-digit variant. The 3-digit sequential addressing scheme can only address NPCs if the DACS II is no larger than 6 units. For DACS II frames that are larger than 6 units, the 4-digit variant of the sequential addressing scheme must be used. The NPC addressing scheme is an attribute of the craft link over which the commands to DACS II are issued or an attribute of the user-id. (See the DACS II documentation for the commands that set and/or change the NPC addressing scheme for a craft link.)

2.2.1 Sequential 3-digit NPC Numbering for DS1 Terminations

Below is the 3-digit sequential NPC numbering scheme for DACS II that may be used for units 1 through 6. This application may address DA, DE, or DS type facility terminating NPCs as well as DSP Application NPCs* (which are of the SD type) in this way. The valid values are:

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
NPC 001-160	**NPC 161-320**	**NPC 321-480**	**NPC 481-640**	**NPC 641-800**	**NPC 801-960**

2.2.2 Sequential 4-digit NPC Numbering for DS1 Terminations

Below is the 4-digit sequential NPC numbering scheme for DACS II frames. This scheme can accommodate the maximum number of units that a DACS II frame may have, which is sixteen. This application may address DA, DE, or DS type facility terminating NPCs as well as DSP Application NPCs (which are of the SD type) in this way. The valid values are:

Unit 1	Unit 2	Unit 3	Unit 4
NPC 0001-0160	**NPC 0161-0320**	**NPC 0321-0480**	**NPC 0481-0640**
Unit 5	Unit 6	Unit 7	Unit 8
NPC 0641-0800	**NPC 0801-0960**	**NPC 0961-1120**	**NPC 1121-1280**
Unit 9	Unit 10	Unit 11	Unit 12
NPC 1281-1440	**NPC 1441-1600**	**NPC 1601-1760**	**NPC 1761-1920**
Unit 13	Unit 14	Unit 15	Unit 16
NPC 1921-2080	**NPC 2081-2240**	**NPC 2241-2400**	**NPC 2401-2560**

* Even numbered NPCs are illegal for DSP Application NPCs; also, even numbered NPCs following odd DSP Application NPCs are not usable and are skipped as previously explained.

2.2.3 Sequential 3-digit NPC Numbering for E1 Terminations

Below is the 3-digit sequential NPC numbering scheme for DACS II that may be used for units 1 through 6 for PA, PB, or PC type NPCs that terminate E1 circuits. DSP Application NPCs (SD types) being able to utilize a full complement of 64 channels may be provisioned in an FTM provisioned for PA, PB, or PC type NPCs. Again, only odd NPC numbers apply to DSP Application NPCs, the even NPC numbers following an odd application NPC number is skipped. The valid values are:

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
NPC	**NPC**	**NPC**	**NPC**	**NPC**	**NPC**
001-032	**161-192**	**321-352**	**481-512**	**641-672**	**801-832**
041-072	**201-232**	**361-392**	**521-552**	**681-712**	**841-872**
081-112	**241-272**	**401-432**	**561-592**	**721-752**	**881-912**
121-152	**281-312**	**441-472**	**601-632**	**761-792**	**921-952**

2.2.4 Sequential 4-digit NPC Numbering for E1 Terminations

Below is the 4-digit sequential NPC numbering scheme for DACS II for PA, PB, or PC type NPCs that terminate E1 circuits. NPCs in all units in a DACS II frame (1 through 16) may be addressed using 4-digit sequential NPC numbers. DSP Application NPCs (SD types) being able to utilize a full complement of 64 channels may be provisioned in an FTM provisioned for PA, PB, or PC type NPCs. Again, only odd NPC numbers apply to DSP Application NPCs, the even NPC numbers following an odd application NPC number is skipped. The valid values are:

Unit 1	Unit 2	Unit 3	Unit 4
NPC	**NPC**	**NPC**	**NPC**
0001-0032	**0161-0192**	**0321-0352**	**0481-0512**
0041-0072	**0201-0232**	**0361-0392**	**0521-0552**
0081-0112	**0241-0272**	**0401-0432**	**0561-0592**
0121-0152	**0281-0312**	**0441-0472**	**0601-0632**

Unit 5	Unit 6	Unit 7	Unit 8
NPC	**NPC**	**NPC**	**NPC**
0641-0672	**0801-0832**	**0961-0992**	**1121-1152**
0681-0712	**0841-0872**	**1001-1032**	**1161-1192**
0721-0752	**0881-0912**	**1041-1072**	**1201-1232**
0761-0792	**0921-0952**	**1081-1112**	**1241-1272**

Unit 9	Unit 10	Unit 11	Unit 12
NPC	**NPC**	**NPC**	**NPC**
1281-1312	**1441-1472**	**1601-1632**	**1761-1792**
1321-1352	**1481-1512**	**1641-1672**	**1801-1832**
1361-1392	**1521-1552**	**1681-1712**	**1841-1872**
1401-1432	**1561-1592**	**1721-1752**	**1881-1912**

Unit 13	Unit 14	Unit 15	Unit 16
NPC	**NPC**	**NPC**	**NPC**
1921-1952	**2081-2112**	**2241-2272**	**2401-2432**
1961-1992	**2121-2152**	**2281-2312**	**2441-2472**
2001-2032	**2161-2192**	**2321-2352**	**2481-2512**
2041-2072	**2201-2232**	**2361-2392**	**2521-2552**

2.2.5 Sequential 3-digit NPC Numbering for DS3 Terminations

Below is the 3-digit sequential NPC numbering scheme for DS3s that have unit numbers between 1 and 6. This application may address TA and TE type facility terminating NPCs within a DS3. The valid values are:

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
NPC	**NPC**	**NPC**	**NPC**	**NPC**	**NPC**
001-160	**161-320**	**321-480**	**481-640**	**641-800**	**801-960**
16A-16H	**32A-32H**	**48A-48H**	**64A-64H**	**80A-80H**	**96A-96H**

2.2.6 Sequential 4-digit NPC Numbering for DS3 Terminations

Below is the 4-digit sequential NPC numbering scheme for DS3s that may be located in any unit of a DACS II frame. This application may address TA and TE type facility terminating NPCs within a DS3. The valid values are:

Unit 1	Unit 2	Unit 3	Unit 4
NPC	**NPC**	**NPC**	**NPC**
0001-0160	**0161-0320**	**0321-0480**	**0481-0640**
016A-016H	**032A-032H**	**048A-048H**	**064A-064H**

Unit 5	Unit 6	Unit 7	Unit 8
NPC	**NPC**	**NPC**	**NPC**
0641-0800	**0801-0960**	**0961-1120**	**1121-1280**
080A-080H	**096A-096H**	**112A-112H**	**128A-128H**

Unit 9	Unit 10	Unit 11	Unit 12
NPC 1281-1440 144A-144H	**NPC 1441-1600 160A-160H**	**NPC 1601-1760 176A-176H**	**NPC 1761-1920 192A-192H**
Unit 13	Unit 14	Unit 15	Unit 16
NPC 1921-2080 208A-208H	**NPC 2081-2240 224A-224H**	**NPC 2241-2400 240A-240H**	**NPC 2401-2560 256A-256H**

2.2.7 Hierarchical Numbering for DS1 Terminations

The hierarchical numbering scheme for DS1 Termination NPCs is based on the fact that within each DACS II frame there are up to 16 units. Within each unit there are 4 modules numbered from the bottom to the top. In each module there are up to 40 NPCs numbered from 1 through 40. The hierarchical scheme simply specifies the unit number, the module number within that unit, and the NPC number within that module that one wants to address. DSP Application NPCs may be addressed this way, but again even NPC numbers are illegal for those NPCs. Below is the hierarchical NPC numbering scheme for DACS II. This application may address DA, DE, or DS type facility terminating NPCs as well as DSP Application NPCs (which are of the SD type). The valid values are:

uvmnp - Hierarchical NPC number

- uv - Unit number
- m - Module number within the unit
- np - NPC number within the module

The range of values are listed below:

Unit	Module	NPC
01-16	1-4	01-40

2.2.8 Hierarchical Numbering for E1 Terminations

The hierarchical numbering scheme for E1 Termination NPCs (identically to DS1 terminations as noted above) is also based on the fact that within each DACS II frame there are up to 16 units. Within each unit there are 4 modules numbered from the bottom to the top. In each module there are up to 32 NPCs numbered from 1 through 32. The hierarchical scheme simply specifies the unit number, the module number within that unit, and the NPC number within that module that one wants to address. DSP Application NPCs may be addressed this way, but again even NPC numbers are illegal for those NPCs. Below is the hierarchical NPC numbering scheme for DACS II. This application may address PA, PB, or PC type facility terminating NPCs as well as DSP Application NPCs (which are of the SD type). The valid values are:

uvmnp - Hierarchical NPC number

uv	- Unit number
m	- Module number within the unit
np	- NPC number within the module

The range of values are listed below:

Unit	Module	NPC
01-16	1-4	01-32

2.2.9 Hierarchical Numbering for DS3 Terminations

The hierarchical numbering scheme for DS3 Termination NPCs is based on the fact that there are up to 16 units in a DACS II frame. Within each unit there are 6 modules (DS3 terminations). In each module there are 28 NPCs numbered from 1 through 28. The hierarchical scheme simply specifies the unit number, the module number within that unit, and the NPC number within that module that one wants to address. Below is the hierarchical NPC numbering scheme for DACS II. This application may address TA, or TE type facility terminating NPCs. The valid values are:

uvmnp - Hierarchical NPC number

uv	- Unit number
m	- Module number within the unit
np	- NPC number within the module

The range of values are listed below:

Unit	Module	NPC
01-16	1-6	01-28

3. Channel Numbering within NPCs

The channel numbers on NPCs that terminate DS1 facilities, i.e. NPCs of type DA, DE, TA, or TE, range from 001 through 024 on both DACS II and DACS II ISX. If the NPC is provisioned with T1DM framing, the channel numbers range from 1 through 23 on both DACS II and DACS II ISX.

The channel numbers on NPCs that terminate E1 facilities, i.e. NPCs of type PA, PB, PC, or TH provisioned with CAS (Channel Associated Signaling), range from 001 through 030 on both DACS II and DACS II ISX. Channels 0 and 31 on E1 facilities provisioned with CAS cannot be part of any conference, because they are reserved for framing and signaling purposes respectively.

The channel numbers on NPCs that terminate E1 facilities, i.e. NPCs of type PA, PB, PC, or TH provisioned with NSA (Non Signaling Associated), range from 001 through 031 on both DACS II and DACS II ISX. Channel 0 on E1 facilities provisioned with NSA cannot be part of any conference, because channel 0 is reserved for framing.

Channels of LSIU NPCs, which are of type LS, range from 0 through 31.

For SLC 96 and SLC Series 5 circuits on DACS II the channel numbers are as follows (The leading zeros are optional.):

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 numbers for DSP application cards range from 1 through 64. The user does not normally worry about actual application channel numbers, because they are not user assignable; the application assigns those numbers instead. However, some application queries and such utilities as the UTL::QRY,CMAP command in DACS II and DACS II ISX will output the actual application assigned channel number.

Please note that on DACS II ISX all 64 channel numbers are always available to the application. On DACS II, however, all 64 channels are only available, if the DSP application has been grown and restored in an International FTM as previously noted. In a North American FTM only 48 channels are available. The actual channel numbers in this latter case range from 1 through 63, with every channel number that is divisible by four not being used.

NOTE:
DACS II ISX does not support DS type NPCs.

When concatenating DMB conferences from one DSP application card to another, the pseudo channel numbers used in the two-way cross connect command for the remote DMB range from 1 through 999 on both DACS II and DACS II ISX.

4. Prefix Notation for All Application Commands

All commands that are sent to and all messages that are received from the DMB Application have a prefix for each command/message. The prefix system permits DACS II or DACS II ISX to send a command to an application without parsing and/or examining that command. Any return message from this application uses a prefix also, which is simply prepended to the return message from the application by DACS II or DACS II ISX. This prefix identifies the circuit pack from which the message was received.

The prefix for transmitting a command to the application has the form:

```
DSPC:[FRM xy,SEQ ww]:{<p_npc>|<p_npc>-<q_npc>|SD311}:\
<application command>
```

where:

<p_npc> - Specifies the NPC number of a single application circuit pack being addressed

<p_npc>-<q_npc> - Specifies a range of NPC numbers of circuit packs running the application that are being addressed. This range may include NPC numbers that are not running the application, which are skipped by the command. However, the first NPC number of the range must point to a circuit pack that is running the application.

SD311 - Specifies the type field of the application. The type field for the application addresses all circuit packs that are running the application on the frame.

If an application command is issued to a range of NPCs or to all DSP Application circuit packs that are running the application (SD311 keyword), then the command is first issued to the application circuit pack with the lowest NPC number within the range or the lowest NPC number within the frame (if the SD311 keyword is used). Each NPC is then given the command and responds to it one at a time until all addressed application NPCs have responded. The command may be aborted. If the command is aborted, the application NPC currently in progress will complete and no subsequent NPCs, if any, will be addressed.

Only a subset of input commands may be used with a range or SD311 in the prefix of the command. These commands are the UTL,QRY commands. All other commands must be sent to individual application circuit packs only.

The command response from the application always identifies the individual circuit pack that is responding and is of the form:

```
M hh:mm:ss xy,ww n[vv] DSPC <z_npc> \
<application_response for NPC <z_npc>>
```

where:

<z_npc> - Specifies the NPC number of the application circuit pack that generated the response. Thus each response is always attributable to an individual application circuit pack

Syntax Errors

The **BADVERB** message is generated if the application encounters a bad verb or a syntax error while attempting to parse a command. If the application finds an incorrect command verb, it produces the output **BADVERB**. If the application finds a good command verb, but encounters a syntax error in the command beyond the command verb, then it will generate the usage pattern for that command verb. For additional information on the **BADVERB** message, refer to the **BADVERB** command (I.93601) in this chapter.

DSPC,BADVERB,CMD

DMB APPLICATION ON DSP PLATFORM, BAD COMMAND MESSAGE

Explanation Of Command

This message is generated if the DMB application found a bad verb or a syntax error while attempting to parse a command.

The background for this message is as follows: The DMB application that found the bad verb or the syntax error did receive the command. The error in the command occurred after a correct command verb **DSPC** and a correct application address. This means that the command parser in DACS II ISX or DACS II found the valid command verb **DSPC** and an appropriate NPC number, range of NPC numbers, or type field in order to be able to send the command to the application.

If the application does not find a correct command verb, it produces the output **BADVERB**. If the DMB application does find a good command verb, but encounters a syntax error in the command beyond the command verb, then it will generate the usage pattern for that command verb.

Command

Any PDS command received by the application that had a bad verb or a syntax error.

Completion Message

Not applicable.

Denial Message

[O.93601]

```
M hh:mm:ss xy,ww  DSPC aaa {BADVERB|CMD}  e LN MSG
<First 70 characters of input message>
<Remaining text of input message>
[USAGE:]
[<usage line>]
        .
        .
[<Usage line>] DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

e LN MSG
- The number of lines in the message is "e"

BADVERB
- The DMB application found a bad verb in the command string

The DMB application terminated processing of the string. Please note that no USAGE pattern is produced in this case, because no valid verb was found to generate the USAGE pattern for.

CMD
- The DMB application found a syntax error in the command string

USAGE:
- The usage pattern for the command verb found follows

The usage pattern need not be all commands that start with that verb. If the syntax error was found far enough downstream so that it is clear which command or subset of commands was the one intended, then only the usage pattern for that command or subset of commands will be generated.

For each command verb stated the usage pattern is as follows:

Verb: - **CHG** (for commands 93301, 93311)

Usage:

```
- CHG::FROM <f_npc>ddd,TO <p_npc>jjj[,TLP(snn,smm)][,NG nn][,ES ee]
        [,INCL]!
- CHG::FROM <f_npc>ddd,TO <t_npc>jjj,{TLA|TLR} {F|T|B|L|G|A}[,INCL]!
```

Verb: - **TCON** (for command 93111)

Usage:

```
- TCON::FROM <f_npc>ddd,TO <t_npc>jjj,MPM(fmd,tmd)[,<tc>][,NTR m]
        [,RDC][,{CUS|INCL}]!
```

Verb: - **TCNT** (for command 93101)

Usage:

```
- TCNT::FROM <f_npc>ddd,TO <t_npc>jjj,MPM(fmd,tmd),<tc>[,NTR m][,RDC]
        [,{CUS|INCL}]!
```

Verb: - **TDIS** (for command 93201)

Usage:

```
- TDIS::FROM <f_npc>ddd,TO <t_npc>jjj[,INCL][,OOS][,DCC]!
```

Verb: - **TTST** (for command 93011, 93021, 93031, 93041, 93051)

Usage:

```
- TTST::MON,TO <f_npc>ddd,TP kk!
- TTST::{SPL|MON},TP kk!
- TTST::{TLA|TLR} {F|T|B},TP kk!
- TTST::TPR,TP kk[,OOS]!
- TTST::TPR,{ALL|LINKS}!
```

Verb: - **UTL** (for command 93501, 93511, 93521, 93531)

Usage:

```
- UTL::QRY,CMAP!
- UTL::QRY,TO <p_npc>ccc!
- UTL::QRY,TPS!
- UTL::QRY,FREE!
```

DSPC,CHG,FROM,TO,TLA,TLR,F,T,B,L,G,A

CHANGE CROSS-CONNECTION TERMINATION STATUS

Explanation Of Command

This command is used to request a change in the termination status of the specified cross-connected circuit which was established by a two-point cross-connect command.

Note on NPC Numbering

There exist two numbering schemes for NPC numbers in DACS II. NPCs can be numbered either sequentially or hierarchically. Also note that on DACS II, sequential NPC numbers may be stated in 3-digit or 4-digit form. The NPC numbering scheme for DACS II is explained in detail in the Introduction part of this Section. The messages below refer to NPC numbers, but do not show any details on NPC numbering. As just stated, the reader is referred to the beginning of this section for this information. On DACS II ISX, only sequential NPC numbers in 3-digit form are used.

NOTE:
In PDS, when NPC number and channel number are specified together, the NPC number must be of fixed length; that is, for a three digit NPC number the NPC number must always be specified as a three digit number with leading zeros if necessary, and a four digit NPC number must always be specified as a four digit number with leading zeros if necessary.

Note on Channel and Conference Numbering

Channels in NPCs that terminate T1 facilities are numbered from 001 through 024. Channels in NPCs that terminate E1 facilities are numbered from 001 through 030. Conferences in DMB Application circuit packs are numbered from 001 through 021. Channels in SLC 96 or SLC Series 5 carriers have a more complex channel numbering scheme that is documented in the Introduction part of this Section. (Only DACS II supports SLC 96 or SLC 5.) The user should also note that channel 24 in a T1 provisioned with T1DM framing cannot be used because it is reserved for framing.

Termination States

The termination state resulting from the command depends on the state prior to the command as indicated by the following table. In that table

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
R - Released State, neither end is terminated
TLA - Terminate and Leave Activate
TLR - Terminate and Leave Release

Prior State	FROM	TO	TLA F	TLA T	TLA B	TLA L	TLA G	TLA A
R	LEG	BBL	F	DNY	F	F	R	F
R	LEG	BRD	F	T	B	F	T	B
R	LEG	SYM	F	T	B	F	T	B
R	BBL	LEG	DNY	T	T	T	R	T
R	BRD	LEG	F	T	B	T	F	B
R	SYM	LEG	F	T	B	T	F	B
F	LEG	BBL	F	DNY	F	F	F	F
F	LEG	BRD	F	B	B	F	B	B
F	LEG	SYM	F	B	B	F	B	B
T/R	BBL	LEG	DNY	T	T	T	T/R	T
F	BRD	LEG	F	B	B	B	F	B
F	SYM	LEG	F	B	B	B	F	B
F/R	LEG	BBL	F	DNY	F	F	F/R	F
B	LEG	BRD	B	B	B	B	B	B
B	LEG	SYM	B	B	B	B	B	B
T/R	BBL	LEG	DNY	T	T	T	T/R	T
B	BRD	LEG	B	B	B	B	B	B
B	SYM	LEG	B	B	B	B	B	B
F/R	LEG	BBL	F	DNY	F	F	F/R	F
T	LEG	BRD	B	T	B	B	T	B
T	LEG	SYM	B	T	B	B	T	B
T	BBL	LEG	DNY	T	T	T	T	T
T	BRD	LEG	B	T	B	T	B	B
T	SYM	LEG	B	T	B	T	B	B

Prior State	FROM	TO	TLR F	TLR T	TLR B	TLR L	TLR G	TLR A
R	LEG	BBL	R	R	R	R	R	R
R	LEG	BRD	R	R	R	R	R	R
R	LEG	SYM	R	R	R	R	R	R
R	BBL	LEG	R	R	R	R	R	R
R	BRD	LEG	R	R	R	R	R	R
R	SYM	LEG	R	R	R	R	R	R
F	LEG	BBL	R	F	R	R	F	R
F	LEG	BRD	R	F	R	R	F	R
F	LEG	SYM	R	F	R	R	F	R
T/R	BBL	LEG	T/R	R	R	R	T/R	R
F	BRD	LEG	R	F	R	F	R	R
F	SYM	LEG	R	F	R	F	R	R
F/R	LEG	BBL	R	F/R	R	R	F/R	R
B	LEG	BRD	T	F	R	T	F	R
B	LEG	SYM	T	F	R	T	F	R
T/R	BBL	LEG	T/R	R	R	R	T/R	R
B	BRD	LEG	T	F	R	F	T	R
B	SYM	LEG	T	F	R	F	T	R
F/R	LEG	BBL	R	F/R	R	R	F/R	R
T	LEG	BRD	T	R	R	T	R	R
T	LEG	SYM	T	R	R	T	R	R
T	BBL	LEG	T	R	R	R	T	R
T	BRD	LEG	T	R	R	R	T	R
T	SYM	LEG	T	R	R	R	T	R

If this command is applied to a channel that is used for DMB concatenation, then the command will be denied.

Command

[I.93311]

DSPC:[FRM xy,SEQ ww]:<p_npc>:CHG::FROM <f_npc>ddd,TO <t_npc>jjj
,{TLA|TLR} {F|T|B|L|G|A}[,INCL]!

Completion Message

[O.93311]

```
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> CHG <f_npc>ddd,<t_npc>jjj\
  2 LN MSG:
[INCL ]{TLA|TLR} {F|T|B|L|G|A} NEW STATE TLA s[ RDC][ CUS] COMPL
```

Denial Message

[O.93311.01]

```
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> CHG <f_npc>ddd,<t_npc>jjj\
  2 LN MSG:
[INCL ]{TLA|TLR} {F|T|B|L|G|A} <explanation of error> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

CHG - Change command

FROM - From

TO - To

<f_npc>ddd
- From termination

<f_npc>
- Number of "FROM" facility terminating NPC

ddd - Channel or conference number on that facility terminating NPC

<t_npc>jjj
- To termination

<t_npc>
- Number of "TO" facility terminating NPC

jjj - Channel or conference number on that facility terminating NPC

Conference number

1 - 21 for the DSPP NPC that is plugged into a CEPT FTM in DACS II
1 - 21 for the DSPP NPC that is plugged into a DACS II ISX
1 - 16 for the DSPP NPC that is plugged into a T1 FTM in DACS II

No range values can apply to either end of an FTU/IFTU/DS3U NPC-DMB or DMB-DMB circuit.

TLA - Terminate and Leave Active

When the direction of toward FTU NPC is terminated, the GIW of the FTU NPC will be inserted toward that direction.

TLR - Terminate and Leave Release

Direction of transmission to be terminated or released

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

s - Direction of transmission been terminated

s	*Explanation*
B	Towards both terminations
F	Towards the FROM termination
T	Towards the TO termination
R	Released State, neither end is terminated

INCL - Inclusive

INCL is used to change the termination status on a circuit marked either as a red or a customer controlled circuit. The command will otherwise be denied if the cross-connected circuit is marked as red or customer controlled.

RDC - Red circuit

The change in termination status was performed on 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. This option is not available in a DACS II ISX.

Explanation of Error

NO INCL, CANNOT OVERRIDE THE STATE OF THE CONF
NPC <t_npc>/<f_npc> IS NOT VALID
TERMINATION CONNECTION IS NOT ALLOWED FOR LEGS BETWEEN BRIDGES
THE COMMAND ENTERED IS ILLEGAL
CHANNEL ddd/jjj IS OUT OF RANGE FOR NPC TYPE SPECIFIED
CONFERENCE ddd/jjj IS OUT OF RANGE FOR DSPP NPC SPECIFIED
REQUESTED ACTION EXCEEDS REMAINING CAPACITY
INITIALIZATION OF APPLICATION IS IN PROGRESS, RETRY COMMAND LATER
NPC <t_npc>/<f_npc> IS OUT-OF-SERVICE
CANNOT PERFORM DMB CHG BECAUSE NTR FLAG SET ON FROM SIDE
CANNOT PERFORM DMB CHG BECAUSE NTR FLAG SET ON TO SIDE
CANNOT PERFORM DMB CHG ON INPUT DIRECTION F
CANNOT PERFORM DMB CHG ON INPUT DIRECTION T
CHANNEL <f_npc>ddd/<t_npc>jjj IS NOT ASSIGNED
CHANNEL IS BEING ROLLED
CHANNEL ddd/jjj IS UNDER TEST
DIGITAL MULTIPOINT BRIDGE (DMB) APPLICATION FAILED
NPC <f_npc>/<t_npc> IS FAILED

DSPC,CHG,FROM,TO,TLP,NG,ES,INCL

CHANGE LEG PARAMETERS

Explanation Of Command

This command requests DMB application to change the parameters, such as Noise Guard (NG), Echo Suppression (ES), and Transmission Level Point (TLP) for the specified leg.

Note on TO and From end

The TO end is the local multipoint bridge that the FROM end circuit which may be the facility terminating circuit pack or the remote multipoint bridge had been cross connected to.

Note on NPC Numbering

There exist two numbering schemes for NPC numbers in DACS II. NPCs can be numbered either sequentially or hierarchically. Also note that on DACS II, sequential NPC numbers may be stated in 3-digit or 4-digit form. The NPC numbering scheme for DACS II is explained in detail in the Introduction part of this Section. The messages below refer to NPC numbers, but do not show any details on NPC numbering. As just stated, the reader is referred to the beginning of this section for this information. On DACS II ISX, only sequential NPC numbers in 3-digit form are used.

NOTE:
In PDS, when NPC number and channel number are specified together, the NPC number must be of fixed length; that is, for a three digit NPC number the NPC number must always be specified as a three digit number with leading zeros if necessary, and a four digit NPC number must always be specified as a four digit number with leading zeros if necessary.

Note on Channel and Conference Numbering

Channels in NPCs that terminate T1 facilities are numbered from 001 through 024. Channels in NPCs that terminate E1 facilities are numbered from 001 through 030. Conferences in DMB Application circuit packs are numbered from 001 through 021. Channels in SLC 96 or SLC Series 5 carriers have a more complex channel numbering scheme that is documented in the Introduction part of this Section. (Only DACS II supports SLC 96 or SLC 5.) The user should also note that channel 24 in a T1 provisioned with T1DM framing cannot be used because it is reserved for framing.

Command

[I.93301]
DSPC:[FRM xy,SEQ ww]:<p_npc>:CHG::FROM <f_npc>ddd,TO <t_npc>jjj
[,TLP([sn]n,[sm]m)][,NG [n]n][,ES [e]e][,INCL]!

Completion Message

[O.93301]
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> CHG <f_npc>ddd,<t_npc>jjj 2 LN MSG:
[INCL][TLP([sn]n,[sm]m)][NG [n]n][ES [e]e]NEW STATE spp,sqq NG ff ES hh
[RDC][CUS] COMPL

Denial Message

[O.93301.01]
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> CHG <f_npc>ddd,<t_npc>jjj 2 LN MSG:
[INCL][TLP([sn]n,[sm]m)][NG [n]n][ES [e]e]<explanation of error> DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

CHG - Change command

FROM - From

TO - To

<f_npc>ddd
- From termination

<f_npc>
- Number of "FROM" facility terminating NPC

ddd - Channel number on that facility terminating NPC

<t_npc>jjj
- To termination

<t_npc>
- Number of "TO" facility terminating NPC

jjj - Conference number on that facility terminating NPC

Conference number

1 - 21 for the DSPP NPC that is plugged into a CEPT FTM in DACS II
1 - 21 for the DSPP NPC that is plugged into a DACS II ISX
1 - 16 for the DSPP NPC that is plugged into a T1 FTM in DACS II

No range values can apply to either end of an FTU/IFTU/DS3U NPC-DMB or DMB-DMB circuit.

TLP - Transmission level point

Specify the incoming and outgoing gain adjustments relative to the TO multipoint bridge 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.

[sn]n - Incoming gain adjust parameter

[sm]m - 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 specified leg. Values are given in steps of two and the units are tenths of 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 change for 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 that shows what situations require "---".

FROM	TO	snn	smm
BRD	BBL	---	smm
BBL	BRD	snn	---
SYM	SYM	snn	smm
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	
SYM	LEG	Invalid combination	
BBL	BBL	Invalid combination	
BRD	BRD	Invalid combination	
SYM	BBL	Invalid combination	
SYM	BRD	Invalid combination	
LEG	LEG	Invalid combination	

NG - Noise guard

[n]n - Requested NG level setting (0, 6, 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

[e]e - Requested ES level setting (0, 6, 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
For DMB concatenation	Default: ES = 0 db

At least one of the three parameters (TLP, NG, ES) must be specified.

Since the signal on each tributary leg (BRD) is copied from the master leg (BBL) without any process, 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

If the optional RDC field is present, the circuit is marked as a Red Circuit.

CUS - Customer

The keyword indicates that the connection is a Customer-controlled Circuit. This option is not available in a DACS II ISX.

Explanation of Error

```
INVALID DSPP NPC AND CONFERENCE NUMBER
INVALID ECHO SUPPRESSION PARAMETER
INVALID NOISE GUARD PARAMETER
INVALID TO CHANNEL/CONFERENCE NUMBER
INVALID TRANSMISSION LEVEL POINT PARAMETER
NO INCL, CANNOT OVERRIDE THE STATE OF THE CONF
NPC <t_npc>/<f_npc> IS NOT VALID
THE COMMAND ENTERED IS ILLEGAL
CHANNEL ddd/jjj IS OUT OF RANGE FOR NPC TYPE SPECIFIED
CONFERENCE ddd/jjj IS OUT OF RANGE FOR DSPP NPC
      SPECIFIED
REQUESTED ACTION EXCEEDS REMAINING CAPACITY
INITIALIZATION OF APPLICATION IS IN PROGRESS, RETRY
      COMMAND LATER
NPC <t_npc>/<f_npc> IS OUT-OF-SERVICE
CANNOT PERFORM DMB CHG BECAUSE NTR FLAG SET ON FROM
      SIDE
CANNOT PERFORM DMB CHG BECAUSE NTR FLAG SET ON TO SIDE
CHANNEL <f_npc>ddd/<t_npc>jjj IS NOT ASSIGNED
CHANNEL IS BEING ROLLED
CHANNEL ddd/jjj IS UNDER TEST
TRYING TO CHANGE LEVEL IN ON BBL LEG
TRYING TO CHANGE LEVEL IN ON BRD LEG
TRYING TO CHANGE LEVEL OUT ON BBL LEG
TRYING TO CHANGE LEVEL OUT ON BRD LEG
DIGITAL MULTIPOINT BRIDGE (DMB) APPLICATION FAILED
NPC <f_npc>/<t_npc> IS FAILED
```

DSPC,TCNT,FROM,TO,MPM,NAM,NTR,RDC,CUS

TWO-WAY CROSS-CONNECT TERMINATE FROM, TO MULTIPOINT MODE

Explanation Of Command

This message requests a multipoint two-way terminated cross-connection between the specified FROM and TO end terminations and is used to connect a DS0 leg to a multipoint circuit on the DSPP circuit pack. The connection will be set up in the terminated state with the Provisioning Insertion Word of the FTU NPC inserted toward the FTU NPC.

NOTE:
This command must not be used to set up a cross connection for DMB concatenation. If an attempt is made, it will be denied.

Note on NPC Numbering

There exist two numbering schemes for NPC numbers in DACS II. NPCs can be numbered either sequentially or hierarchically. Also note that on DACS II, sequential NPC numbers may be stated in 3-digit or 4-digit form. The NPC numbering scheme for DACS II is explained in detail in the Introduction part of this Section. The messages below refer to NPC numbers, but do not show any details on NPC numbering. As just stated, the reader is referred to the beginning of this section for this information. On DACS II ISX, only sequential NPC numbers in 3-digit form are used.

NOTE:
In PDS, when NPC number and channel number are specified together, the NPC number must be of fixed length; that is, for a three digit NPC number the NPC number must always be specified as a three digit number with leading zeros if necessary, and a four digit NPC number must always be specified as a four digit number with leading zeros if necessary.

Note on Channel and Conference Numbering

Channels in NPCs that terminate T1 facilities are numbered from 001 through 024. Channels in NPCs that terminate E1 facilities are numbered from 001 through 030. Conferences in DMB Application circuit packs are numbered from 001 through 021. Channels in SLC 96 or SLC Series 5 carriers have a more complex channel numbering scheme that is documented in the Introduction part of this Section. (Only DACS II supports SLC 96 or SLC 5.) The user should also note that channel 24 in a T1 provisioned with

T1DM framing cannot be used because it is reserved for framing.

Command

1.544 Mbit/s Termination Command

[I.93101]

```
DSPC:[FRM xy,SEQ ww]:<p_npc>:TCNT::FROM <f_npc>ddd,TO <t_npc>jjj,\
MPM(fmd,tmd),<tc>[,NTR m][,RDC][,{CUS|INCL}]!
```

2.048 Mbit/s Termination Command

[I.93101]

```
DSPC:[FRM xy,SEQ ww]:<p_npc>:TCNT::FROM <f_npc>ddd,TO <t_npc>jjj,\
MPM(fmd,tmd)[,<tc>][,NAM][,NTR m][,RDC][,{CUS|INCL}]!
```

Completion Message

1.544 Mbit/s Termination Completion

[O.93101]

```
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TCNT <f_npc>ddd,<t_npc>jjj\
  2 LN MSG:
fmd,tmd <tc>[ NTR m][ NOBBL {F|T}][ {CUS|INCL}][ RDC] COMPL
```

2.048 Mbit/s Termination Completion

[O.93101]

```
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TCNT <f_npc>ddd,<t_npc>jjj\
  2 LN MSG:
fmd,tmd[ <tc>][ NAM][ NTR m][ NOBBL {F|T}][ {CUS|INCL}][ RDC] COMPL
```

Denial Message

[O.93101.01]

```
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TCNT <f_npc>ddd,<t_npc>jjj\
  2 LN MSG:
<explanation of error> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TCNT - Two-Way Terminated Cross-Connect

FROM - From

TO - To

<f_npc>ddd
- From termination

<f_npc>
- Number of "FROM" facility terminating NPC

ddd - Channel or conference number on that facility terminating NPC

<t_npc>jjj
- To termination

<t_npc>
- Number of "TO" facility terminating NPC

jjj - Channel or conference number on that facility terminating NPC

Conference number

1 - 21 for the DSPP NPC that is plugged into a CEPT FTM in DACS II
1 - 21 for the DSPP NPC that is plugged into a DACS II ISX
1 - 16 for the DSPP NPC that is plugged into a T1 FTM in DACS II

Cross-connections may be between various Network Processing Circuit (NPC) types:

- Facility Terminating Unit (FTU)/IFTU/DS3U NPC and DMB
- DMB and DMB

No range values can apply to either end of an FTU/IFTU/DS3U NPC-DMB or DMB-DMB circuit.

MPM - Multipoint mode

fmd - FROM end of the multipoint mode

tmd - TO end of the multipoint mode

For DMB circuits, there are four possible values for fmd and tmd:

fmd/tmd	*Explanation*
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)

The valid combinations of fmd and tmd are:

For within a DMB conference:

LEG,BBL or BBL,LEG
LEG,BRD or BRD,LEG
SYM,LEG or LEG,SYM

For concatenation of conferences:

BRD,BBL or BBL,BRD
SYM,SYM

Note: Default values for noise guard (NG) and echo suppression (ES) are applied to symmetrical bridges (multipoint mode SYM) and polling bridges (multipoint mode BBL,BRD). These default values are:

Symmetrical bridges	NG = -18dB	ES = -18dB
Polling data bridges	NG = 0dB	ES = 0dB

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. For example, TRSP,IW X'pq (input form).

The following signaling options are allowed:

signaling	*Explanation*
TRSP	Transparent, no signaling

The following insertion word options are allowed:

insertion word	*Explanation*
IW X'pq	pq is a user specified insertion word. If the circuit is disconnected with the DCC keyword (see command 93201), then the binary pattern corresponding to the hexadecimal value of pq will be inserted towards the facility. If there is a failure on an incoming leg, then the binary pattern corresponding to the hexadecimal value of pq will be inserted towards the facility, if the facility is a T1 facility; however, for all E1 facilities the bit pattern that will be inserted will be all ones.
TRB	Standard trouble code, equal to IW X'E4. Only valid for T1 NPCs.

All leg connections to multipoint circuits using a DMB on DSPP circuit pack 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 must not be specified. The insertion word is not valid for concatenated conferences.

NAM - No A-law to Mu-law

The A-law to Mu-law and Mu-law to A-law code translators on E1 type NPC are disabled.
Multipoint cross-connects have A-law to Mu-law and Mu-law to A-law set as a default. This conversion is performed on the E1 type NPC. It may be desirable to disable this conversion since such a conversion creates more quantization noise.

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. When the toward FTU NPC is flagged as NTR, the provisioning insertion word will be inserted toward that direction. If NTR m is specified on the broadcast direction of a BBL (backbone leg) then the BRD (broadcast) legs of this conference have their outward transmission turned off. That is, the provisioning insertion word will be inserted toward the broadcast direction for all the BRD legs.

CUS - Customer

Customer-Controlled circuit
The optional CUS keyword is used to flag a circuit as 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. This optional keyword is not supported in the DACS II ISX.

INCL - Inclusive

A termination designated as CUS or RDC or both cannot be disconnected or modified without using the INCL keyword in the input command. Also, an NPC which supports these circuits cannot be removed unless the INCL 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.

NOTE:
The INCL keyword should not be in this message for DACS II ISX because DACS II ISX does not support CUS keyword.

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

Explanation of Error

NPC <t_npc>/<f_npc> IS NOT EQUIPPED
CUS FLAG DOESN'T MATCH THAT OF CONFERENCE
ILLEGAL BBL BBL COMBINATION
ILLEGAL BBL SYM COMBINATION
ILLEGAL BRD BRD COMBINATION
ILLEGAL BRD SYM COMBINATION
ILLEGAL LEG LEG COMBINATION
ILLEGAL SYM BBL COMBINATION
ILLEGAL SYM BRD COMBINATION
INPUT BRD (BBL) HAS SAME NPC AND CHANNEL AS BBL (BRD)
NO CUS CIRCUITS AND INCL KEYWORD USED
NO INCL, CANNOT OVERRIDE THE STATE OF THE CONF
NPC <t_npc>/<f_npc> IS NOT VALID
NPC CHANNEL IS A TEST PORT
RDC FLAG DOESN'T MATCH THAT OF CONFERENCE
RDLD FLAG DOESN'T MATCH THAT OF CONFERENCE

```
TERMINATION CONNECTION IS NOT ALLOWED FOR LEGS BETWEEN
      BRIDGES
THE COMMAND ENTERED IS ILLEGAL
THE TYPE OF THE NPC SPECIFIED IS ILLEGAL
TRUNK CONDITIONING IS INVALID
TRUNK CONDITIONING IS NOT PROVIDED
TRYING TO ADD A BBL LEG TO A DMB SET UP AS SYM
TRYING TO ADD A BBL TO A DMB THAT ALREADY HAS ONE
TRYING TO ADD A BROADCAST LEG TO A DMB SET UP AS SYM
TRYING TO ADD A SYM LEG TO A DMB SET UP AS BROADCAST
CHANNEL ddd/jjj IS OUT OF RANGE FOR NPC TYPE SPECIFIED
CONFERENCE ddd/jjj IS OUT OF RANGE FOR DSPP NPC
      SPECIFIED
CHANNEL ddd/jjj IS ASSIGNED
CONNECTION EXCEEDS REMAINING CAPACITY
INITIALIZATION OF APPLICATION IS IN PROGRESS, RETRY
      COMMAND LATER
NPC <t_npc>/<f_npc> IS OUT-OF-SERVICE
CHANNEL IS BEING ROLLED
DIGITAL MULTIPOINT BRIDGE (DMB) APPLICATION FAILED
NPC <f_npc>/<t_npc> IS FAILED
```

Possible error messages generated by application when running on DACS II

```
A loopback is active on the FROM termination
A loopback is active on the TO termination
AIS invalid for cross-connection specified
Active CCN side not IS or failed or pested or hardware OOS
CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
Cross-connect a non Mode I channel to DCLU
Cross-connect a non SLC channel to DCLU
ETSI not equipped, not in service, or failed
FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
FMC cannot be cross-connected in this format
FROM NPC is not provisioned as DGA
FTMI not equipped, not in service, or failed
Invalid FROM NPC type for AIS insertion
Invalid FROM channel number
Invalid FROM channel number range
Invalid TO NPC type for AIS insertion
Invalid TO channel number
Invalid TO channel number range
Invalid channel 000 cross-connection specified
Invalid channel 031 cross-connection specified
Invalid keyword(s) combination specified
Invalid parameter combination
Invalid range for specified FROM NPC type
```

Invalid range for specified TO NPC type
Line format types are incompatible
MUX or TRB invalid for cross-connection specified
NAM invalid for cross-connection specified
RT-DCLU cross-connect with different channel number
RT-DCLU cross-connect with different ids
Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS
Required FLI not equipped, not in service, or failed
Required MIU not equipped, not in service, or failed
Required MXR not equipped, not in service, or failed
SC invalid for cross-connection specified
TO NPC is not provisioned as DGA
TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
Termination is in process of being rolled
The parameter specified does not match with the NPC type
Trunk conditioning is invalid
Trunk type is not allowed in the circuit specified
UNIT not equipped, not in service, or failed
Unmatched channel range
Unmatched channel range involving SLC Mode III termination
Using the 24th channel of a T1DM NPC

Possible status messages generated by application when running on DACS II

Status message	*Explanation*
BAD PSEUDO CHANNEL RANGE	DSPC pseudo channel out of range
{F|T|B} ASGN	Termination assigned
{F|T|B} CUS	Customer-controlled Circuit
{F|T|B} FAIL	Failed
{F|T|B} INVLD	Invalid NPC type
{F|T|B} OOS	Out-of-service
{F|T|B} RDC	Red Circuit
{F|T|B} RDLD	Red Lined
{F|T|B} ROLL	Circuit is involved in a roll
{F|T|B} TG	NPC is grown as a test group
{F|T|B} TP	NPC is used for test access
{F|T|B} UEQD	Unequipped
{F|T|B} UTST	Under Test

Possible error messages generated by application when running on ISX

AIS invalid for cross-connection specified
Active SXC side not IS or failed or pested or hardware OOS
FMC cannot be cross-connected in this format
Invalid FROM NPC type for AIS insertion
Invalid FROM channel number
Invalid TO NPC type for AIS insertion
Invalid TO channel number

```
Invalid channel 000 cross-connection specified
Invalid channel 031 cross-connection specified
Invalid keyword(s) combination specified
Invalid parameter combination
Invalid range for specified FROM NPC type
Invalid range for specified NPC type
Invalid range for specified TO NPC type
MUX or TRB invalid for cross-connection specified
NAM invalid for cross-connection specified
NPC containing channel 000 is invalid type
SC invalid for cross-connection specified
The parameter specified does not match with the NPC type
Trunk conditioning is invalid
Unmatched channel range
Using the 24th channel of a T1DM NPC
```

Possible status messages generated by application when running on ISX

Status message	*Explanation*
BAD PSEUDO CHANNEL RANGE	DSPC pseudo channel out of range
{F|T|B} ASGN	Termination assigned
{F|T|B} FAIL	Failed
{F|T|B} INVLD	Invalid NPC type
{F|T|B} INVNFS	Invalid, Not Frame Word Setting
{F|T|B} OOS	Out-of-service
{F|T|B} RDC	Red Circuit
{F|T|B} RDLD	Red Lined
{F|T|B} TP	NPC is used for test access

{F|T|B} UEQD	Unequipped
{F|T|B} UTST	Under Test

In the above messages the characters F, T, and B mean the following

Character	*Explanation*
F	From
T	To
B	Both

DSPC,TCON,FROM,TO,MPM,NAM,NTR,RDC,CUS

TWO-WAY CROSS-CONNECTION FROM, TO MULTIPOINT MODE

Explanation Of Command

This command 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 on the DSPP circuit pack.

Note on NPC Numbering

There exist two numbering schemes for NPC numbers in DACS II. NPCs can be numbered either sequentially or hierarchically. Also note that on DACS II, sequential NPC numbers may be stated in 3-digit or 4-digit form. The NPC numbering scheme for DACS II is explained in detail in the Introduction part of this Section. The messages below refer to NPC numbers, but do not show any details on NPC numbering. As just stated, the reader is referred to the beginning of this section for this information. On DACS II ISX, only sequential NPC numbers in 3-digit form are used.

NOTE:
In PDS, when NPC number and channel number are specified together, the NPC number must be of fixed length; that is, for a three digit NPC number the NPC number must always be specified as a three digit number with leading zeros if necessary, and a four digit NPC number must always be specified as a four digit number with leading zeros if necessary.

Note on Channel and Conference Numbering

Channels in NPCs that terminate T1 facilities are numbered from 001 through 024. Channels in NPCs that terminate E1 facilities are numbered from 001 through 030. Conferences in DMB Application circuit packs are numbered from 001 through 021. Channels in SLC 96 or SLC Series 5 carriers have a more complex channel numbering scheme that is documented in the Introduction part of this Section. (Only DACS II supports SLC 96 or SLC 5.) The user should also note that channel 24 in a T1 provisioned with T1DM framing cannot be used because it is reserved for framing.

Command

1.544 Mbit/s Termination Command

[I.93111]

```
DSPC:[FRM xy,SEQ ww]:<p_npc>:TCON::FROM <f_npc>ddd,TO <t_npc>jjj,\
MPM(fmd,tmd),<tc>[,NTR m][,RDC][,{CUS|INCL}]!
```

2.048 Mbit/s Termination Command

[I.93111]

```
DSPC:[FRM xy,SEQ ww]:<p_npc>:TCON::FROM <f_npc>ddd,TO <t_npc>jjj,\
MPM(fmd,tmd)[,<tc>][,NAM][,NTR m][,RDC][,{CUS|INCL}]!
```

Completion Message

1.544 Mbit/s Termination Completion

[O.93111]

```
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TCON <f_npc>ddd,<t_npc>jjj\
  2 LN MSG:
fmd,tmd <tc>[ NTR m][ NOBBL {F|T}][ {CUS|INCL}][ RDC] COMPL
```

2.048 Mbit/s Termination Completion

[O.93111]

```
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TCON <f_npc>ddd,<t_npc>jjj\
  2 LN MSG:
fmd,tmd[ <tc>][ NAM][ NTR m][ NOBBL {F|T}][ {CUS|INCL}][ RDC] COMPL
```

Denial Message

[O.93111.01]

```
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TCON <f_npc>ddd,<t_npc>jjj\
  2 LN MSG:
<explanation of error> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TCON - Two-Way Cross-Connect

FROM - From

TO - To

<f_npc>ddd
- From termination

<f_npc>
- Number of "FROM" facility terminating NPC

ddd - Channel or conference number on that facility terminating NPC

<t_npc>jjj
- To termination

<t_npc>
- Number of "TO" facility terminating NPC

jjj - Channel or conference number on that facility terminating NPC

Conference number

1 - 21 for the DSPP NPC that is plugged into a CEPT FTM in DACS II
1 - 21 for the DSPP NPC that is plugged into a DACS II ISX
1 - 16 for the DSPP NPC that is plugged into a T1 FTM in DACS II

Cross-connections may be between various Network Processing Circuit (NPC) types:

- Facility Terminating Unit (FTU)/IFTU/DS3U NPC and DMB
- DMB and DMB

No range values can apply to either end of an FTU/IFTU/DS3U NPC-DMB or DMB-DMB circuit.

For the DMB concatenation, the pseudo channel which is in the range from 1 through 999 shall be used for the remote DMB NPC.

MPM - Multipoint mode

fmd - FROM end of the multipoint mode

tmd - TO end of the multipoint mode

For DMB circuits, there are four possible values for fmd and tmd:

fmd/tmd	*Explanation*
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)

The valid combinations of fmd and tmd are:

For within a DMB conference:

LEG,BBL or BBL,LEG
LEG,BRD or BRD,LEG
SYM,LEG or LEG,SYM

For concatenation of conferences:

BRD,BBL or BBL,BRD
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 data circuits	NG = 0dB	ES = 0dB
DMB concatenation	NG = 0dB	ES = 0dB

tc - Trunk conditioning

This field must not be specified when the command is used for DMB concatenation. <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. For example, TRSP,IW X'pq (input form).

The following signaling options are allowed:

signaling	*Explanation*
TRSP	Transparent, no signaling

The following insertion word options are allowed:

insertion word	*Explanation*
IW X'pq	pq is a user specified insertion word. If the circuit is disconnected with the DCC keyword (see command 93201), then the binary pattern corresponding to the hexadecimal value of pq will be inserted towards the facility. If there is a failure on an incoming leg, then the binary pattern corresponding to the hexadecimal value of pq will be inserted towards the facility, if the facility is a T1 facility; however, for all E1 facilities the bit pattern that will be inserted will be all ones.
TRB	Standard trouble code, equal to IW X'E4. Only valid for T1 NPCs.

All leg connections to multipoint circuits using a DMB 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 must not be specified. The insertion word is not valid for concatenated conferences.

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. When the toward FTU NPC is flagged as NTR, the GIW will be inserted toward that direction. If NTR m is specified on the BBL (backbone leg) of a multipoint circuit, then the BRD (broadcast) legs of this conference have their outward transmission turned off. That is, the GIW will be inserted toward the broadcast direction for all BRD legs.

NAM - No A-law to Mu-law

The A-law to Mu-law and Mu-law to A-law code translators on E1 type NPC are disabled.
Multipoint cross-connects have A-law to Mu-law and Mu-law to A-law set as a default. This conversion is performed on the E1 type NPC. It may be desirable to disable this conversion since such a conversion creates more quantization noise.

CUS - Customer

Customer-Controlled circuit
The optional CUS keyword is used to flag a circuit as 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. This optional keyword is not supported on the DACS II ISX.

INCL - Inclusive

A termination designated as CUS or RDC or both cannot be disconnected or modified without using the INCL keyword in the message. Also, an NPC which supports these circuits cannot be removed unless the INCL 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.

NOTE:
The INCL keyword should not be in this message for DACS II ISX because DACS II ISX does not support CUS keyword.

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

Explanation of Error

NPC <t_npc>/<f_npc> IS NOT EQUIPPED
CUS FLAG DOESN'T MATCH THAT OF CONFERENCE
ILLEGAL BBL BBL COMBINATION
ILLEGAL BBL SYM COMBINATION
ILLEGAL BRD BRD COMBINATION
ILLEGAL BRD SYM COMBINATION
ILLEGAL LEG LEG COMBINATION
ILLEGAL SYM BBL COMBINATION
ILLEGAL SYM BRD COMBINATION
INPUT BRD (BBL) HAS SAME NPC AND CHANNEL AS BBL (BRD)
NO CUS CIRCUITS AND INCL KEYWORD USED
NO INCL, CANNOT OVERRIDE THE STATE OF THE CONF
NPC <t_npc>/<f_npc> IS NOT VALID
NPC CHANNEL IS A TEST PORT
RDC FLAG DOESN'T MATCH THAT OF CONFERENCE
RDLD FLAG DOESN'T MATCH THAT OF CONFERENCE
THE COMMAND ENTERED IS ILLEGAL
THE TYPE OF THE NPC SPECIFIED IS ILLEGAL
TRUNK CONDITIONING IS INVALID
TRUNK CONDITIONING IS NOT PROVIDED
TRYING TO ADD A BBL LEG TO A DMB SET UP AS SYM
TRYING TO ADD A BBL TO A DMB THAT ALREADY HAS ONE
TRYING TO ADD A BROADCAST LEG TO A DMB SET UP AS SYM
TRYING TO ADD A SYM LEG TO A DMB SET UP AS BROADCAST
CHANNEL ddd/jjj IS OUT OF RANGE FOR NPC TYPE SPECIFIED
CONFERENCE ddd/jjj IS OUT OF RANGE FOR DSPP NPC SPECIFIED
CHANNEL ddd/jjj IS ASSIGNED
CONNECTION EXCEEDS REMAINING CAPACITY

```
INITIALIZATION OF APPLICATION IS IN PROGRESS, RETRY
      COMMAND LATER
NPC <t_npc>/<f_npc> IS OUT-OF-SERVICE
CHANNEL IS BEING ROLLED
DIGITAL MULTIPOINT BRIDGE (DMB) APPLICATION FAILED
NPC <f_npc>/<t_npc> IS FAILED
```

Possible error messages generated by application when running on DACS II

```
A loopback is active on the FROM termination
A loopback is active on the TO termination
AIS invalid for cross-connection specified
Active CCN side not IS or failed or pested or hardware OOS
CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
Cross-connect a non Mode I channel to DCLU
Cross-connect a non SLC channel to DCLU
ETSI not equipped, not in service, or failed
FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
FMC cannot be cross-connected in this format
FROM NPC is not provisioned as DGA
FTMI not equipped, not in service, or failed
Invalid FROM NPC type for AIS insertion
Invalid FROM channel number
Invalid FROM channel number range
Invalid TO NPC type for AIS insertion
Invalid TO channel number
Invalid TO channel number range
Invalid channel 000 cross-connection specified
Invalid channel 031 cross-connection specified
Invalid keyword(s) combination specified
Invalid parameter combination
Invalid range for specified FROM NPC type
Invalid range for specified TO NPC type
Line format types are incompatible
MUX or TRB invalid for cross-connection specified
NAM invalid for cross-connection specified
RT-DCLU cross-connect with different channel number
RT-DCLU cross-connect with different ids
Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS
Required FLI not equipped, not in service, or failed
Required MIU not equipped, not in service, or failed
Required MXR not equipped, not in service, or failed
SC invalid for cross-connection specified
TO NPC is not provisioned as DGA
TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
Termination is in process of being rolled
The parameter specified does not match with the NPC type
```

Trunk conditioning is invalid
Trunk type is not allowed in the circuit specified
UNIT not equipped, not in service, or failed
Unmatched channel range
Unmatched channel range involving SLC Mode III termination
Using the 24th channel of a T1DM NPC

Possible status messages generated by application when running on DACS II

Status message	*Explanation*
BAD PSEUDO CHANNEL RANGE	DSPC pseudo channel out of range
{F|T|B} ASGN	Termination assigned
{F|T|B} CUS	Customer-controlled Circuit
{F|T|B} FAIL	Failed
{F|T|B} INVLD	Invalid NPC type
{F|T|B} OOS	Out-of-service
{F|T|B} RDC	Red Circuit
{F|T|B} RDLD	Red Lined
{F|T|B} ROLL	Circuit is involved in a roll
{F|T|B} TG	NPC is grown as a test group
{F|T|B} TP	NPC is used for test access
{F|T|B} UEQD	Unequipped
{F|T|B} UTST	Under Test

Possible error messages generated by application when running on ISX

```
AIS invalid for cross-connection specified
Active SXC side not IS or failed or pested or hardware OOS
FMC cannot be cross-connected in this format
Invalid FROM NPC type for AIS insertion
Invalid FROM channel number
Invalid TO NPC type for AIS insertion
Invalid TO channel number
Invalid channel 000 cross-connection specified
Invalid channel 031 cross-connection specified
Invalid keyword(s) combination specified
Invalid parameter combination
Invalid range for specified FROM NPC type
Invalid range for specified NPC type
Invalid range for specified TO NPC type
MUX or TRB invalid for cross-connection specified
NAM invalid for cross-connection specified
NPC containing channel 000 is invalid type
SC invalid for cross-connection specified
The parameter specified does not match with the NPC type
Trunk conditioning is invalid
Unmatched channel range
Using the 24th channel of a T1DM NPC
```

Possible status messages generated by application when running on ISX

Status message	*Explanation*
BAD PSEUDO CHANNEL RANGE	DSPC pseudo channel out of range
{F|T|B} ASGN	Termination assigned
{F|T|B} FAIL	Failed
{F|T|B} INVLD	Invalid NPC type
{F|T|B} INVNFS	Invalid, Not Frame Word Setting
{F|T|B} OOS	Out-of-service
{F|T|B} RDC	Red Circuit
{F|T|B} RDLD	Red Lined
{F|T|B} TP	NPC is used for test access
{F|T|B} UEQD	Unequipped
{F|T|B} UTST	Under Test

In the above messages the characters F, T, and B mean the following

Character	*Explanation*
F	From
T	To
B	Both

DSPC,TDIS,FROM,TO,INCL,OOS,DCC

TWO-WAY DISCONNECTIONS

Explanation Of Command

This command requests a disconnection between the specified FROM and TO end terminations and is used to disconnect a leg from a multipoint circuit. Disconnections may be between various Network Processing Circuit (NPC) types:

- Facility Terminating Unit (FTU)/DS3U NPC and DSPP NPC
- DSPP NPC and DSPP NPC

Note on NPC Numbering

There exist two numbering schemes for NPC numbers in DACS II. NPCs can be numbered either sequentially or hierarchically. Also note that on DACS II, sequential NPC numbers may be stated in 3-digit or 4-digit form. The NPC numbering scheme for DACS II is explained in detail in the Introduction part of this Section. The messages below refer to NPC numbers, but do not show any details on NPC numbering. As just stated, the reader is referred to the beginning of this section for this information. On DACS II ISX, only sequential NPC numbers in 3-digit form are used.

NOTE:
In PDS, when NPC number and channel number are specified together, the NPC number must be of fixed length; that is, for a three digit NPC number the NPC number must always be specified as a three digit number with leading zeros if necessary, and a four digit NPC number must always be specified as a four digit number with leading zeros if necessary.

Note on Channel and Conference Numbering

Channels in NPCs that terminate T1 facilities are numbered from 001 through 024. Channels in NPCs that terminate E1 facilities are numbered from 001 through 030. Conferences in DMB Application circuit packs are numbered from 001 through 021. Channels in SLC 96 or SLC Series 5 carriers have a more complex channel numbering scheme that is documented in the Introduction part of this Section. (Only DACS II supports SLC 96 or SLC 5.) The user should also note that channel 24 in a T1 provisioned with T1DM framing cannot be used because it is reserved for framing.

Command

[I.93201]
DSPC:[FRM xy,SEQ ww]:<p_npc>:TDIS::FROM <f_npc>ddd,TO <t_npc>jjj
[,INCL][,OOS][,DCC]!

Completion Message

[O.93201]
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TDIS <f_npc>ddd,<t_npc>jjj
** 2 LN MSG:**
[NOBBL {F|T}][MPDIS {F|T}][INCL][OOS][CUS][DCC][RDC] COMPL

Denial Message

[O.93201.01]
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TDIS <f_npc>ddd,<t_npc>jjj
** 2 LN MSG:**
<explanation of error> DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

TDIS - Disconnect a leg from a multipoint bridge

FROM - From termination

TO - To termination

<f_npc>ddd
- From termination

<f_npc>
- Number of "FROM" facility terminating NPC

ddd - Channel or conference number on that facility terminating NPC

<t_npc>jjj
- To termination

<t_npc>
- Number of "TO" facility terminating NPC

jjj - Channel or conference number on that facility terminating NPC

Conference number

1 - 21 for the DSPP NPC that is plugged into a CEPT FTM in DACS II
1 - 21 for the DSPP NPC that is plugged into a DACS II ISX
1 - 16 for the DSPP NPC that is plugged into a T1 FTM in DACS II

Disconnections may be between various Network Processing Circuit (NPC) types:

- Facility Terminating Unit (FTU)/IFTU/DS3U NPC and DMB
- DMB and DMB

No range values can apply to either end of an FTU/IFTU/DS3U NPC-DMB or DMB-DMB circuit.

DCC - Disconnect Code

If DCC is specified, DACS II/ISX will insert the user-defined disconnect code and signaling into the disconnected channel. This disconnect code and signaling are specified by the trunk conditioning field of the **TCON** command that initially connected the channel. If DCC is not used, the disconnect code specified in the **GRTH NPC** command will be used.

OOS - Out of service

An Out-Of-Service disconnection may be done by giving the optional OOS keyword. The facility terminating NPC must be out-of-service or the OOS disconnection will be denied.

NOTE:
The OOS keyword is not for the DSPP NPC being out-of-service.

CUS - Customer

Indicated the circuit is a customer controlled circuit. This option is not applicable for DACS II ISX.

NOBBL - No backbone leg

This optional field will appear if the multipoint circuit FROM or TO is in the broadcast mode and has no backbone leg after the TDIS command.

F - From

T - To

MPDIS - Multipoint disconnect

F - From

T - To
This optional field appears when the disconnection has completely removed the last leg from the FROM or TO conference.

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.

INCL - Inclusive

A termination designated as CUS or RDC or both cannot be disconnected or modified without using the INCL keyword in the message. Also, an NPC which supports these circuits cannot be removed unless the INCL 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.

Explanation of Error

```
NPC <t_npc>/<f_npc> IS NOT EQUIPPED
INVALID FROM CHANNEL/CONFERENCE NUMBER
INVALID TO CHANNEL/CONFERENCE NUMBER
NO INCL, CANNOT OVERRIDE THE STATE OF THE CONF
NPC <t_npc>/<f_npc> IS NOT VALID
OOS KEYWORD INCLUDED AND NPC IS NOT OUT-OF-SERVICE
THE COMMAND ENTERED IS ILLEGAL
CHANNEL ddd/jjj IS OUT OF RANGE FOR NPC TYPE SPECIFIED
CONFERENCE ddd/jjj IS OUT OF RANGE FOR DSPP NPC
      SPECIFIED
INITIALIZATION OF APPLICATION IS IN PROGRESS, RETRY
      COMMAND LATER
NPC <t_npc>/<f_npc> IS OUT-OF-SERVICE
```

CHANNEL <f_npc>ddd/<t_npc>jjj IS NOT ASSIGNED
CHANNEL IS BEING ROLLED
CHANNEL ddd/jjj IS UNDER TEST
TRYING TO DISCONNECT A LEG UNDER TEST ACCESS
TRYING TO DISCONNECT A NONEXISTING LEG
DIGITAL MULTIPOINT BRIDGE (DMB) APPLICATION FAILED
NPC <f_npc>/<t_npc> IS FAILED

Possible error messages generated by application when running on DACS II

A loopback is active on the FROM termination
A loopback is active on the TO termination
Active CCN side not IS or failed or pested or hardware OOS
CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
Cross-connect a non Mode I channel to DCLU
Cross-connect a non SLC channel to DCLU
DSPP not in service, or failed
ETSI not equipped, not in service, or failed
FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
FROM NPC is not provisioned as DGA
FTMI not equipped, not in service, or failed
Invalid FROM channel number
Invalid FROM channel number range
Invalid TO channel number
Invalid TO channel number range
Invalid channel 000 cross-connection specified
Invalid channel 031 cross-connection specified
Invalid keyword(s) combination specified
Invalid parameter combination
Invalid range for specified FROM NPC type
Invalid range for specified TO NPC type
No NPC’s out of service and OOS keyword used
RT-DCLU cross-connect with different channel number
RT-DCLU cross-connect with different ids
Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS
Required FLI not equipped, not in service, or failed
Required MIU not equipped, not in service, or failed
Required MXR not equipped, not in service, or failed
TO NPC is not provisioned as DGA
TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
Termination is in process of being rolled
The parameter specified does not match with the NPC type
UNIT not equipped, not in service, or failed
Unmatched channel range
Unmatched channel range involving SLC Mode III termination

Possible status messages generated by application when running on DACS II

Status message	*Explanation*
BAD PSEUDO CHANNEL RANGE	DSPC pseudo channel out of range
{F|T|B} CUS	Customer-controlled Circuit
{F|T|B} FAIL	Failed
{F|T|B} INVLD	Invalid NPC type
{F|T|B} NOMTH	No Match
{F|T|B} OOS	Out-of-service
{F|T|B} RDC	Red Circuit
{F|T|B} RDLD	Red Lined
{F|T|B} ROLL	Circuit is involved in a roll
{F|T|B} TP	NPC is used for test access
{F|T|B} UASGN	unassign
{F|T|B} UEQD	Unequipped
{F|T|B} UNPASGN	Unassigned or Not Properly Assigned
{F|T|B} UTST	Under Test

Possible error messages generated by application when running on ISX

```
Active SXC side not IS or failed or pested or hardware OOS
Invalid FROM channel number
Invalid TO channel number
Invalid channel 000 cross-connection specified
Invalid channel 031 cross-connection specified
Invalid keyword(s) combination specified
Invalid parameter combination
Invalid range for specified FROM NPC type
Invalid range for specified NPC type
Invalid range for specified TO NPC type
NPC containing channel 000 is invalid type
No NPC's out of service and OOS keyword used
No RDLD circuits and INCL keyword used
The parameter specified does not match with the NPC type
Trunk conditioning must match for range disconnect with DCC keyword
Unmatched channel range
```

Possible status messages generated by application when running on ISX

Status message	*Explanation*
BAD PSEUDO CHANNEL RANGE	DSPC pseudo channel out of range
{F|T|B} FAIL	Failed
{F|T|B} INVLD	Invalid NPC type
{F|T|B} NOMTH	No Match
{F|T|B} OOS	Out-of-service
{F|T|B} RDC	Red Circuit
{F|T|B} RDLD	Red Lined
{F|T|B} TP	NPC is used for test access
{F|T|B} UASGN	unassign

{F|T|B} UEQD	Unequipped
{F|T|B} UNPASGN	Unassigned or Not Properly Assigned
{F|T|B} UTST	Under Test

In the above messages the characters F, T, and B mean the following

Character	*Explanation*
F	From
T	To
B	Both

DSPC,TTST,MON,TO,TP

CREATE TEST ACCESS CONNECTION IN MONITOR MODE

Explanation Of Command

This command can be used to set up a test port to monitor a specified leg that connected to a DMB on the specified DSPP NPC.

Monitor mode is the only mode that can be requested when a test access connection is created. In monitor mode, data transmission in the tested circuit is not interrupted.

The lower test access channel of the test port is used to monitor the incoming signal, and the upper test access channel of the test port is used to monitor the outgoing signal.

Note on NPC Numbering

There exist two numbering schemes for NPC numbers in DACS II. NPCs can be numbered either sequentially or hierarchically. Also note that on DACS II, sequential NPC numbers may be stated in 3-digit or 4-digit form. The NPC numbering scheme for DACS II is explained in detail in the Introduction part of this Section. The messages below refer to NPC numbers, but do not show any details on NPC numbering. As just stated, the reader is referred to the beginning of this section for this information. On DACS II ISX, only sequential NPC numbers in 3-digit form are used.

NOTE:
In PDS, when NPC number and channel number are specified together, the NPC number must be of fixed length; that is, for a three digit NPC number the NPC number must always be specified as a three digit number with leading zeros if necessary, and a four digit NPC number must always be specified as a four digit number with leading zeros if necessary.

Note on Channel and Conference Numbering

Channels in NPCs that terminate T1 facilities are numbered from 001 through 024. Channels in NPCs that terminate E1 facilities are numbered from 001 through 030. Conferences in DMB Application circuit packs are numbered from 001 through 021. Channels in SLC 96 or SLC Series 5 carriers have a more complex channel numbering scheme that is documented in the Introduction part of this Section. (Only DACS II supports SLC 96 or SLC 5.) The user should also note that channel 24 in a T1 provisioned with T1DM framing cannot be used because it is reserved for framing.

Command

[I.93011]
DSPC:[FRM xy,SEQ ww]:<p_npc>:TTST::MON,TO <f_npc>ddd,TP kk!

Completion Message

[O.93011]
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TTST MON <p_npc>ccc,<f_npc>ddd 2 LN MSG: TP kk CGA (ftp)[RDC][CUS] TLA s COMPL

Denial Message

[O.93011.01]
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TTST MON <f_npc>ddd TP kk 2 LN MSG: <explanation of error> DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

TTST - Test access command

TP - Test Port

MON - Monitor mode

<p_npc>ccc
- DSPP NPC and conference number

<p_npc>
- Number of the DSPP NPC in which test access connections will be set up

ccc - Number of the conference that has a leg to be tested

Conference number

1 - 21 for the DSPP NPC that is plugged into a CEPT FTM in DACS II
1 - 21 for the DSPP NPC that is plugged into a DACS II ISX
1 - 16 for the DSPP NPC that is plugged into a T1 FTM in DACS II

kk - Test Port number valid between 1 and 96

<f_npc>ddd
- Facility terminating NPC and channel number

<f_npc>
- Number of TO facility terminating NPC containing circuit to be tested

ddd - Number of the channel that was cross-connected to the DSP Application NPC

CGA - Carrier group alarm

ftp - CGA state for T1 NPC or PBA state for E1 NPC

For the "from", "to" and "port" (test port) terminations.

f - FROM termination state

f	*Explanation*
F	FROM NPC is in CGA or PBA
0	FROM NPC is not in CGA or PBA

t - TO termination state

t	*Explanation*
T	TO NPC is in CGA or PBA
0	TO NPC is not in CGA or PBA

p - Test port digroup state

p	*Explanation*

P Test port NPC is in CGA or PBA
0 Test port NPC is not in CGA or PBA

RDC - Red circuit

CUS - Customer

The cross-connection tested is a customer controlled circuit. CUS is not available on the DACS II ISX.

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

Explanation of Error

THE SPECIFIED TEST PORT <kk> IS NOT EQUIPPED
THE TO SIDE NPC IS NOT EQUIPPED
INVALID NPC TYPE FOR TEST PORT
NPC <t_npc>/<f_npc> IS NOT VALID
NPC CHANNEL IS A TEST PORT
THE COMMAND ENTERED IS ILLEGAL
CHANNEL ddd/jjj IS OUT OF RANGE FOR NPC TYPE SPECIFIED
THE SPECIFIED TEST PORT IS ALREADY ASSIGNED
CONNECTION EXCEEDS REMAINING CAPACITY
INITIALIZATION OF APPLICATION IS IN PROGRESS, RETRY COMMAND LATER
THE TEST PORT <kk> IS OUT-OF-SERVICE
TO SIDE NPC <f_npc> IS OUT-OF-SERVICE
CHANNEL <f_npc>ddd/<t_npc>jjj IS NOT ASSIGNED
CHANNEL IS BEING ROLLED
SPECIFIED ACCESS POINT IS ALREADY UNDER TEST
DIGITAL MULTIPOINT BRIDGE (DMB) APPLICATION FAILED
TEST PORT <kk> IS FAILED
TO SIDE NPC <f_npc> IS FAILED

Possible error messages generated by application when running on DACS II

```
A loopback is active on the FROM termination
A loopback is active on the TO termination
AIS invalid for cross-connection specified
Active CCN side not IS or failed or pested or hardware OOS
CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
Cross-connect a non Mode I channel to DCLU
Cross-connect a non SLC channel to DCLU
ETSI not equipped, not in service, or failed
FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
FMC cannot be cross-connected in this format
FROM NPC is not provisioned as DGA
FTMI not equipped, not in service, or failed
Invalid FROM NPC type for AIS insertion
Invalid FROM channel number
Invalid FROM channel number range
Invalid TO NPC type for AIS insertion
Invalid TO channel number
Invalid TO channel number range
Invalid channel 000 cross-connection specified
Invalid channel 031 cross-connection specified
Invalid keyword(s) combination specified
Invalid parameter combination
Invalid range for specified FROM NPC type
Invalid range for specified TO NPC type
Line format types are incompatible
MUX or TRB invalid for cross-connection specified
NAM invalid for cross-connection specified
RT-DCLU cross-connect with different channel number
RT-DCLU cross-connect with different ids
Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS
Required FLI not equipped, not in service, or failed
Required MIU not equipped, not in service, or failed
Required MXR not equipped, not in service, or failed
SC invalid for cross-connection specified
TO NPC is not provisioned as DGA
TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
Termination is in process of being rolled
The parameter specified does not match with the NPC type
Trunk conditioning is invalid
Trunk type is not allowed in the circuit specified
UNIT not equipped, not in service, or failed
Unmatched channel range
Unmatched channel range involving SLC Mode III termination
Using the 24th channel of a T1DM NPC
```

Possible status messages generated by application when running on DACS II

Status message	*Explanation*
ASGN	Test port is assigned
BAD PSEUDO CHANNEL RANGE	DSPC pseudo channel out of range
BADCCB	CCB OOS or failed
BADCCN	CCN OOS or failed
BADCHAN	Bad channel number was specified
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
BADNPC	Bad NPC number
BADTSI	TSI OOS or failed
BCAST	The TO side is part of a broadcast circuit
CBIT	The TO side is part of a c-bit cross-connection
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
INERR	Input error
INV CKT TYPE	TO termination has invalid circuit type for test access
MCOND	An entity in the network is OOS or failed
NA	DACS CCN or UNIT involved cannot perform the cross-connect
NMON	Not Monitor, the testport is not currently in monitor mode
OOS	Test port Group NPC out of service

SG COND 02	Test port is dynamic
SIG TS NS	Signaling timeslot (CAS TS16) cannot be split
T ASGN	The TO side NPC is assigned
T CLR	The TO NPC is a clear-DS1 NPC
T FAIL	TO side NPC is marked failed
T OOS	TO side NPC is Out Of Service
T UEQD	TO side NPC is Unequipped
T UTST	TO termination is under test
TG	The TO termination is part of a test group
TP	The TO termination is part of a test port
T_DCLU	Attempt to test a locally switched channel
UEQD	Test port kk is unequipped
UTST	Under Test
{F|T|B} ASGN	Termination assigned
{F|T|B} CUS	Customer-controlled Circuit
{F|T|B} FAIL	Failed
{F|T|B} INVLD	Invalid NPC type
{F|T|B} OOS	Out-of-service

{F|T|B} RDC	Red Circuit
{F|T|B} RDLD	Red Lined
{F|T|B} ROLL	Circuit is involved in a roll
{F|T|B} TG	NPC is grown as a test group
{F|T|B} TP	NPC is used for test access
{F|T|B} UEQD	Unequipped
{F|T|B} UTST	Under Test

Possible error messages generated by application when running on ISX

```
AIS invalid for cross-connection specified
Active SXC side not IS or failed or pested or hardware OOS
FMC cannot be cross-connected in this format
Invalid FROM NPC type for AIS insertion
Invalid FROM channel number
Invalid TO NPC type for AIS insertion
Invalid TO channel number
Invalid channel 000 cross-connection specified
Invalid channel 031 cross-connection specified
Invalid keyword(s) combination specified
Invalid parameter combination
Invalid range for specified FROM NPC type
Invalid range for specified NPC type
Invalid range for specified TO NPC type
MUX or TRB invalid for cross-connection specified
NAM invalid for cross-connection specified
NPC containing channel 000 is invalid type
SC invalid for cross-connection specified
The parameter specified does not match with the NPC type
Trunk conditioning is invalid
Unmatched channel range
Using the 24th channel of a T1DM NPC
```

Possible status messages generated by application when running on ISX

Status message	*Explanation*
ASGN	Test port is assigned
BAD CHAN	Bad channel number was specified
BAD PSEUDO CHANNEL RANGE	DSPC pseudo channel out of range
BADCCN	CCN OOS or failed
BADNPC	TO side NPC type is illegal for HUB test access
BCAST	The TO side is part of a broadcast circuit
F ASGN	The FROM side NPC is assigned
F FAIL	FROM side NPC is marked failed
F OOS	FROM side NPC (abc) is out of service

INERR	Input error
MCOND	An entity in the network is OOS or failed
NA	DACS CCN cannot perform the cross-connect
NMON	Not Monitor, the testport is not currently in monitor mode
SG COND 02	Test port is static
SIG TS NS	Signaling timeslot (CAS TS16) cannot be split
T ASGN	The TO side NPC is assigned
T FAIL	TO side NPC is marked failed
T OOS	TO side NPC is Out Of Service
T UEQD	TO side NPC is Unequipped
T UTST	TO termination is under test
TP	The TO termination is part of a test port
T_DCLU	Attempt to test a locally switched channel
UEQD	Test port kk is unequipped
UEQD	The test port is not equipped
UTST	Under Test
{F|T|B} ASGN	Termination assigned
{F|T|B} FAIL	Failed

{F|T|B} INVLD	Invalid NPC type
{F|T|B} INVNFS	Invalid, Not Frame Word Setting
{F|T|B} OOS	Out-of-service
{F|T|B} RDC	Red Circuit
{F|T|B} RDLD	Red Lined
{F|T|B} TP	NPC is used for test access
{F|T|B} UEQD	Unequipped
{F|T|B} UTST	Under Test

In the above messages the characters F, T, and B mean the following

Character	*Explanation*
F	From
T	To
B	Both

DSPC,TTST,SPL,MON,TP

CHANGE TWO-WAY TEST ACCESS TO MONITOR OR SPLIT MODE

Explanation Of Command

This command changes a test access connection previously started in monitor mode to split mode. Additionally, if the test access connection was in split mode, this command can put it back to monitor mode. The user must specify the test port number that was used in a previous test access command creating the test access connection in monitor mode.

Note on NPC Numbering

There exist two numbering schemes for NPC numbers in DACS II. NPCs can be numbered either sequentially or hierarchically. Also note that on DACS II, sequential NPC numbers may be stated in 3-digit or 4-digit form. The NPC numbering scheme for DACS II is explained in detail in the Introduction part of this Section. The messages below refer to NPC numbers, but do not show any details on NPC numbering. As just stated, the reader is referred to the beginning of this section for this information. On DACS II ISX, only sequential NPC numbers in 3-digit form are used.

NOTE:
In PDS, when NPC number and channel number are specified together, the NPC number must be of fixed length; that is, for a three digit NPC number the NPC number must always be specified as a three digit number with leading zeros if necessary, and a four digit NPC number must always be specified as a four digit number with leading zeros if necessary.

Note on Channel and Conference Numbering

Channels in NPCs that terminate T1 facilities are numbered from 001 through 024. Channels in NPCs that terminate E1 facilities are numbered from 001 through 030. Conferences in DMB Application circuit packs are numbered from 001 through 021. Channels in SLC 96 or SLC Series 5 carriers have a more complex channel numbering scheme that is documented in the Introduction part of this Section. (Only DACS II supports SLC 96 or SLC 5.) The user should also note that channel 24 in a T1 provisioned with T1DM framing cannot be used because it is reserved for framing.

Command

[I.93021]
DSPC:[FRM xy,SEQ ww]:<p_npc>:TTST::{SPL|MON},TP kk!

Completion Message

[O.93021]
```
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TTST {SPL|MON} \
<p_npc>ccc,<f_npc>ddd  2 LN MSG:
TP kk CGA (ftp)[ RDC][ CUS] TLA s COMPL
```

Denial Message

[O.93021.01]
```
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TTST {SPL|MON} TP kk  2 LN MSG:
<explanation of error> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TTST - Test access command

TP - Test Port

SPL - Split mode

MON - Monitor mode

<p_npc>ccc
- DSPP NPC and conference number

<p_npc>
- Number of the DSPP NPC to that test access channels were connected

ccc - Number of the conference that has a leg under test access

Conference number

1 - 21 for the DSPP NPC that is plugged into a CEPT FTM in DACS II
1 - 21 for the DSPP NPC that is plugged into a DACS II ISX
1 - 16 for the DSPP NPC that is plugged into a T1 FTM in DACS II

kk - Test Port number valid between 1 and 96

<f_npc>ddd
- Facility terminating NPC and channel number

<f_npc> - Number of a facility terminating NPC
ddd - Number of the channel that is under test access

CGA - Carrier group alarm

ftp - CGA state for T1 NPC or PBA state for E1 NPC

For the "from", "to" and "port" (test port) terminations.

f - FROM termination state

f	*Explanation*
F	FROM NPC is in CGA or PBA
0	FROM NPC is not in CGA or PBA

t - TO termination state

t	*Explanation*
T	TO NPC is in CGA or PBA
0	TO NPC is not in CGA or PBA

p - Test port digroup state

p	*Explanation*
P	Test port NPC is in CGA or PBA
0	Test port NPC is not in CGA or PBA

RDC - Red circuit

CUS - Customer

The cross-connection tested is a customer controlled circuit. The CUS option is not available in a DACS II ISX.

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

Explanation of Error

```
THE SPECIFIED TEST PORT <kk> IS NOT EQUIPPED
THE TO SIDE NPC IS NOT EQUIPPED
INVALID CHANNEL NUMBER FOR LOWER TEST PORT
INVALID NPC TYPE FOR TEST PORT
NPC <t_npc>/<f_npc> IS NOT VALID
THE COMMAND ENTERED IS ILLEGAL
REQUESTED ACTION EXCEEDS REMAINING CAPACITY
INITIALIZATION OF APPLICATION IS IN PROGRESS, RETRY
      COMMAND LATER
THE TEST PORT <kk> IS OUT-OF-SERVICE
TO SIDE NPC <f_npc> IS OUT-OF-SERVICE
CHANNEL IS BEING ROLLED
SPECIFIED TEST PORT IS ALREADY IN MONITOR MODE
SPECIFIED TEST PORT IS ALREADY IN SPLIT MODE
SPECIFIED TEST PORT IS NOT ASSIGNED
DIGITAL MULTIPOINT BRIDGE (DMB) APPLICATION FAILED
TEST PORT <kk> APPEARS NOT TO BE CONNECTED TO
      APPLICATION
TEST PORT <kk> IS FAILED
TEST PORT IS LOOPED
TO SIDE NPC <f_npc> IS FAILED
```

DSPC,TTST,TLA,TLR,F,T,B,TP

CHANGE TERMINATE AND LEAVE STATE OF A LEG VIA TEST ACCESS

Explanation Of Command

This command changes a leg under test access from the Terminate and Leave Release (TLR) to the Terminate and Leave Active (TLA) state or from the TLA state to the TLR state. Before using this command, the leg must be connected to a test port and must be either in monitor mode or in split mode. See the **TTST** command (I.93011 and I.93021) on how to put a leg of a multipoint bridge into monitor or split test access mode.

If a leg of a multipoint bridge is not under test access, it can be terminated or released (if previously terminated) by using the CHG command (I.93311).

CAUTION:
Growth Insertion Word (GIW) is inserted toward the facility terminating NPC if the transmission on that direction is terminated.

The termination state resulting from the command depends on the state prior to the command as indicated by the following table. In that table

R - Released State, neither end is terminated
F - FROM end is terminated
T - TO end is terminated
B - BOTH ends are terminated
TLA - Terminate and Leave Activate
TLR - Terminate and Leave Release

The Table below is used when the leg under test access is SYM or BRD.

PRIOR STATE	REQUESTED CHANGE	NEW STATE	PRIOR STATE	REQUESTED CHANGE	NEW STATE
R	TLA F	F	R	TLR F	R
R	TLA T	T	R	TLR T	R
R	TLA B	B	R	TLR B	R
F	TLA F	F	F	TLR F	R
F	TLA T	B	F	TLR T	F
F	TLA B	B	F	TLR B	R
B	TLA F	B	B	TLR F	T
B	TLA T	B	B	TLR T	F
B	TLA B	B	B	TLR B	R
T	TLA T	T	T	TLR T	R
T	TLA F	B	T	TLR F	T
T	TLA B	B	T	TLR B	R

The Table below is used when the leg under test access is BBL.

PRIOR STATE	REQUESTED CHANGE	NEW STATE	PRIOR STATE	REQUESTED CHANGE	NEW STATE
R	TLA F	DNY	R	TLR F	R
R	TLA T	T	R	TLR T	R
R	TLA B	T	R	TLR B	R
T	TLA T	T	T	TLR T	R
T	TLA F	DNY	T	TLR F	T
T	TLA B	T	T	TLR B	R

Note on TO and FROM end

The TO end is defined by the circuit number <f_npc>ddd used in the command (I.93011) that is used to set up the test access. The FROM end is, of course, the multipoint bridge that the TO end circuit had been cross-connected to.

Note on NPC Numbering

There exist two numbering schemes for NPC numbers in DACS II. NPCs can be numbered either sequentially or hierarchically. Also note that on DACS II, sequential NPC numbers may be stated in 3-digit or 4-digit form. The NPC numbering scheme for DACS II is explained in detail in the Introduction part of this Section. The messages below refer to NPC numbers, but do not show any details on NPC numbering. As just stated, the reader is referred to the beginning of this section for this information. On DACS II ISX, only sequential NPC numbers in 3-digit form are used.

NOTE:
In PDS, when NPC number and channel number are specified together, the NPC number must be of fixed length; that is, for a three digit NPC number the NPC number must always be specified as a three digit number with leading zeros if necessary, and a four digit NPC number must always be specified as a four digit number with leading zeros if necessary.

Note on Channel and Conference Numbering

Channels in NPCs that terminate T1 facilities are numbered from 001 through 024. Channels in NPCs that terminate E1 facilities are numbered from 001 through 030. Conferences in DMB Application circuit packs are numbered from 001 through 021. Channels in SLC 96 or SLC Series 5 carriers have a more complex channel numbering scheme that is documented in the Introduction part of this Section. (Only DACS II supports SLC 96 or SLC 5.) The user should also note that channel 24 in a T1 provisioned with T1DM framing cannot be used because it is reserved for framing.

Command

[I.93031]
DSPC:[FRM xy,SEQ ww]:<p_npc>:TTST::{TLA|TLR} {F|T|B},TP kk!

Completion Message

[O.93031]
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TTST {TLA|TLR} {F|T|B} 2 LN MSG:
<p_npc>ccc,<f_npc>ddd TP kk CGA (ftp)[RDC][CUS] TLA s COMPL

Denial Message

[O.93031.01]
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TTST {TLA|TLR} {F|T|B} 2 LN MSG:
TP kk <explanation of error> DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

TTST - Test access command

TP - Test Port

TLA - Terminate and leave activate

TLR - Release test point from terminate and leave state

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*
R	RELEASED. Neither side is terminated
B	BOTH sides of the cross-connect are terminated
F	FROM side is terminated
T	TO side is terminated

kk - Test Port number valid between 1 and 96

<p_npc>ccc
- DSPP NPC and conference number

<p_npc>
- Number of the DSPP NPC to that test access channels were connected

ccc - Number of the conference that has a leg under test access

Conference number

1 - 21 for the DSPP NPC that is plugged into a CEPT FTM in DACS II
1 - 21 for the DSPP NPC that is plugged into a DACS II ISX
1 - 16 for the DSPP NPC that is plugged into a T1 FTM in DACS II

<f_npc>ddd
- External facility terminating NPC and channel number

where:

<f_npc>
- Number of facility terminating NPC that contains the TO circuit

ddd - Channel number on that facility terminating NPC

CGA - Carrier group alarm

ftp - CGA status

ftp defines the alarm status of the FROM, TO, and test access facilities, respectively.

f - FROM CGA state

f	*Explanation*
F	FROM facility is in CGA
0	FROM facility is not in CGA

t - TO CGA state

t	*Explanation*
T	TO facility is in CGA
0	TO facility is not in CGA

p - Test Port NPC CGA state

p	*Explanation*
P	Test Port NPC is in CGA
0	Test Port NPC is not in CGA

RDC - Red circuit

The cross-connection tested is a red circuit.

CUS - Customer

The cross-connection tested is a customer controlled circuit. This keyword is not applicable for DACS II ISX.

Explanation of Error

THE SPECIFIED TEST PORT <kk> IS NOT EQUIPPED
THE TO SIDE NPC IS NOT EQUIPPED
INVALID CHANNEL NUMBER FOR LOWER TEST PORT
INVALID NPC TYPE FOR TEST PORT
NPC <t_npc>/<f_npc> IS NOT VALID
TERMINATION CONNECTION IS NOT ALLOWED FOR LEGS BETWEEN BRIDGES
THE COMMAND ENTERED IS ILLEGAL
REQUESTED ACTION EXCEEDS REMAINING CAPACITY
INITIALIZATION OF APPLICATION IS IN PROGRESS, RETRY COMMAND LATER
THE TEST PORT <kk> IS OUT-OF-SERVICE
TO SIDE NPC <f_npc> IS OUT-OF-SERVICE
CANNOT PERFORM DMB CHG BECAUSE NTR FLAG SET ON FROM SIDE
CANNOT PERFORM DMB CHG BECAUSE NTR FLAG SET ON TO SIDE
CHANNEL IS BEING ROLLED
SPECIFIED TEST ACCESS POINT <f_npc>ddd IS ALREADY IN TLA MODE
SPECIFIED TEST ACCESS POINT <f_npc>ddd IS ALREADY IN TLR MODE
SPECIFIED TEST PORT IS NOT ASSIGNED
DIGITAL MULTIPOINT BRIDGE (DMB) APPLICATION FAILED
TEST PORT <kk> APPEARS NOT TO BE CONNECTED TO APPLICATION
TEST PORT <kk> IS FAILED
TEST PORT IS LOOPED
TO SIDE NPC <f_npc> IS FAILED

DSPC,TTST,TPR,ALL,LINKS,TP

RELEASE ALL LEGS FROM TEST ACCESS

Explanation Of Command

This command releases legs of multipoint bridges from test access and restores these legs to released or terminated state. Two keywords govern the scope of the release from test access. If the ALL keyword is used, only those test access connections that were originally connected by the administrative link n[vv] over which this command is being issued will be released from test access. If the LINKS keyword is used, all test access connections in effect on the addressed DSP Platform circuit pack running the DMB application are released*.

The DMB application will also use this command autonomously with the ALL keyword, if a link that had active test access circuits created is dropped for any reason.

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 from test access.

Command

[I.93051]
DSPC:[FRM xy,SEQ ww]:<p_npc>:TTST::TPR,{ALL|LINKS}!

* The choice of keywords appears reversed. It is retained in this application in order to match the choice of keywords in the older subrate feature of DACS II ISX.

Completion Message

[O.93051]
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TTST TPR {ALL|LINKS} COMPL

[O.93052]
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TTST TPR LINKS 2 LN MSG:
NO TEST ACCESS CHANNELS WERE ACTIVE COMPL

[O.93053]
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TTST TPR ALL 2 LN MSG:
NO TEST ACCESS CHANNELS WERE ACTIVE BY LINK COMPL

[O.93054]
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TTST TPR {ALL|LINKS} 2 LN MSG:
ONE OR MORE TEST ACCESS CHANNELS COULD NOT BE RELEASED COMPL

Denial Message

[O.93051.01]
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TTST TPR {ALL|LINKS}
<explanation of error> DNY

Autonomous Message

[O.93051]
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TTST TPR ALL COMPL

[O.93054]
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TTST TPR ALL 2 LN MSG:
ONE OR MORE TEST ACCESS CHANNELS COULD NOT BE RELEASED COMPL

Explanation Of Parameters

TTST::TPR
- Disconnect test access connection

ALL - All

This keyword causes the release of only those test access channels whose test access was last operated on by administrative link n[vv], which is the link over which this command is transmitted also. In the unusual case, where (for example) a test access connection is placed in monitor mode by link 1 first and is then placed in split mode by link 2, then the test access connection is only dropped if the "disconnect test access" command with the ALL keyword is issued over link 2, because that is the link the test access connection was last operated on. The same command over link 1 will have no effect on that particular test access connection.

LINKS - Links

This keyword causes all test access channels for the addressed DSP Platform circuit pack running the DMB application to be released, regardless over which administrative link the test access connection had been initiated.

<p_npc>
- Number of the DSPP NPC

DSPC,TTST,TPR,TP

RELEASE A LEG FROM TEST ACCESS

Explanation Of Command

This command releases a leg of a multipoint bridge from test access and restores this leg to released or terminated state.

This command does not affect the terminate and leave state of the released leg. If the leg is terminated either before or during test access, it will retain the termination state upon release from test access.

Command

[I.93041]
DSPC:[FRM xy,SEQ ww]:<p_npc>:TTST::TPR,TP kk[,OOS]!

Completion Message

[O.93041]
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TTST TPR[<p_npc>ccc,<f_npc>ddd]
2 LN MSG:
TP kk[RDC][CUS][TLA s][OOS][NTR m] COMPL

Denial Message

[O.93041.01]
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> TTST TPR TP kk[OOS] 2 LN MSG:
<explanation of error> DNY

Autonomous Message

1.544 Mbit/s Termination Autonomous

Not applicable

2.048 Mbit/s Termination Autonomous

Not applicable

Explanation Of Parameters

TTST::TPR
- Disconnect test access connection

TP - Test Port

kk - Test Port number valid between 1 and 96

<p_npc>ccc
- DSPP NPC and conference number

<p_npc>
- Number of the DSPP NPC to that test access channels were connected

ccc - Number of the conference that has a leg under test access

Conference number

1 - 21 for the DSPP NPC is plugged into a CEPT FTM in DACS II
1 - 21 for the DSPP NPC is plugged into a DACS II ISX
1 - 16 for the DSPP NPC is plugged into a T1 FTM in DACS II

<f_npc>ddd
- External facility terminating NPC and channel number

where:

<f_npc> - Number of facility terminating NPC that contains the TO circuit or the leg which is under test access

ddd - Channel number on that facility terminating NPC

RDC - Red circuit

CUS - Customer

The cross-connection tested is a customer controlled circuit. This keyword is not applicable for DACS II ISX.

NTR - No Transmit

m - The direction toward which transmission is shut off

m	*Explanation*
F	FROM
T	TO

TLA - Terminate and leave activate

s - Termination state of the access point

s	*Explanation*
F	FROM side is terminated
T	TO side is terminated
B	BOTH sides of the cross-connect are terminated
R	RELEASED, Neither side is terminated

OOS - Out-of-service

Used to release a test port on an out-of-service Test Port NPC.

Explanation of Error

```
THE SPECIFIED TEST PORT <kk> IS NOT EQUIPPED
THE TO SIDE NPC IS NOT EQUIPPED
INVALID CHANNEL NUMBER FOR LOWER TEST PORT
INVALID NPC TYPE FOR TEST PORT
NPC <t_npc>/<f_npc> IS NOT VALID
OOS KEYWORD INCLUDED AND NPC IS NOT OUT-OF-SERVICE
THE COMMAND ENTERED IS ILLEGAL
      COMMAND LATER
INITIALIZATION OF APPLICATION IS IN PROGRESS, RETRY
      COMMAND LATER
THE TEST PORT <kk> IS OUT-OF-SERVICE
TO SIDE NPC <f_npc> IS OUT-OF-SERVICE
CHANNEL IS BEING ROLLED
SPECIFIED TEST PORT IS NOT ASSIGNED
```

```
DIGITAL MULTIPOINT BRIDGE (DMB) APPLICATION FAILED
TEST PORT <kk> APPEARS NOT TO BE CONNECTED TO
      APPLICATION
TEST PORT <kk> IS FAILED
TO SIDE NPC <f_npc> IS FAILED
```

Possible error messages generated by application when running on DACS II

```
A loopback is active on the FROM termination
A loopback is active on the TO termination
Active CCN side not IS or failed or pested or hardware OOS
CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
Cross-connect a non Mode I channel to DCLU
Cross-connect a non SLC channel to DCLU
DSPP not in service, or failed
ETSI not equipped, not in service, or failed
FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
FROM NPC is not provisioned as DGA
FTMI not equipped, not in service, or failed
Invalid FROM channel number
Invalid FROM channel number range
Invalid TO channel number
Invalid TO channel number range
Invalid channel 000 cross-connection specified
Invalid channel 031 cross-connection specified
Invalid keyword(s) combination specified
Invalid parameter combination
Invalid range for specified FROM NPC type
Invalid range for specified TO NPC type
No NPC's out of service and OOS keyword used
RT-DCLU cross-connect with different channel number
RT-DCLU cross-connect with different ids
Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS
Required FLI not equipped, not in service, or failed
Required MIU not equipped, not in service, or failed
Required MXR not equipped, not in service, or failed
TO NPC is not provisioned as DGA
TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
Termination is in process of being rolled
The parameter specified does not match with the NPC type
UNIT not equipped, not in service, or failed
Unmatched channel range
Unmatched channel range involving SLC Mode III termination
```

Possible status messages generated by application when running on DACS II

Status message	*Explanation*
BAD PSEUDO CHANNEL RANGE	DSPC pseudo channel out of range
BADNPC	Bad NPC number
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
MCOND	An entity in the network is OOS or failed
NA	DACS CCN or UNIT involved cannot perform the cross-connect
NUTST	Test port kk is presently idle

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
T UEQD	The DACS unit supporting the TO termination is out-of-service or failed
UEQD	The test port Group NPC or the test port is not equipped
{F|T|B} CUS	Customer-controlled Circuit
{F|T|B} FAIL	Failed
{F|T|B} INVLD	Invalid NPC type
{F|T|B} NOMTH	No Match
{F|T|B} OOS	Out-of-service
{F|T|B} RDC	Red Circuit
{F|T|B} RDLD	Red Lined
{F|T|B} ROLL	Circuit is involved in a roll
{F|T|B} TP	NPC is used for test access
{F|T|B} UASGN	unassign
{F|T|B} UEQD	Unequipped
{F|T|B} UNPASGN	Unassigned or Not Properly Assigned
{F|T|B} UTST	Under Test

Possible error messages generated by application when running on ISX

```
Active SXC side not IS or failed or pested or hardware OOS
Invalid FROM channel number
Invalid TO channel number
Invalid channel 000 cross-connection specified
Invalid channel 031 cross-connection specified
Invalid keyword(s) combination specified
Invalid parameter combination
Invalid range for specified FROM NPC type
Invalid range for specified NPC type
Invalid range for specified TO NPC type
NPC containing channel 000 is invalid type
No NPC's out of service and OOS keyword used
No RDLD circuits and INCL keyword used
The parameter specified does not match with the NPC type
Trunk conditioning must match for range disconnect with DCC
      keyword
Unmatched channel range
```

Possible status messages generated by application when running on ISX

Status message	*Explanation*
BAD PSEUDO CHANNEL RANGE	DSPC pseudo channel out of range
F FAIL	FROM side NPC is marked failed
F OOS	FROM side NPC (abc) is out of service
MCOND	An entity in the network is OOS or failed
NA	DACS CCN cannot perform the cross-connect
NUTST	Test port kk is presently idle
T FAIL	TO side NPC is marked failed
T OOS	TO side NPC is Out Of Service
UEQD	The test port is not equipped

{F|T|B} FAIL	Failed
{F|T|B} INVLD	Invalid NPC type
{F|T|B} NOMTH	No Match
{F|T|B} OOS	Out-of-service
{F|T|B} RDC	Red Circuit
{F|T|B} RDLD	Red Lined
{F|T|B} TP	NPC is used for test access
{F|T|B} UASGN	unassign
{F|T|B} UEQD	Unequipped
{F|T|B} UNPASGN	Unassigned or Not Properly Assigned
{F|T|B} UTST	Under Test

In the above messages the characters F, T, and B mean the following

Character	*Explanation*
F	From
T	To
B	Both

DSPC,UTL,QRY,CMAP,SD311

QUERY PARTIAL CROSS-CONNECT MAP

Explanation Of Command

This command requests a printout of the number of legs for each digital multipoint bridge on a DSPP circuit pack running the DMB application.

Note on NPC Numbering

There exist two numbering schemes for NPC numbers in DACS II. NPCs can be numbered either sequentially or hierarchically. Also note that on DACS II, sequential NPC numbers may be stated in 3-digit or 4-digit form. The NPC numbering scheme for DACS II is explained in detail in the Introduction part of this Section. The messages below refer to NPC numbers, but do not show any details on NPC numbering. As just stated, the reader is referred to the beginning of this section for this information. On DACS II ISX, only sequential NPC numbers in 3-digit form are used.

NOTE:
In PDS, when NPC number and channel number are specified together, the NPC number must be of fixed length; that is, for a three digit NPC number the NPC number must always be specified as a three digit number with leading zeros if necessary, and a four digit NPC number must always be specified as a four digit number with leading zeros if necessary.

Note on Channel and Conference Numbering

Channels in NPCs that terminate T1 facilities are numbered from 001 through 024. Channels in NPCs that terminate E1 facilities are numbered from 001 through 030. Conferences in DMB Application circuit packs are numbered from 001 through 021. Channels in SLC 96 or SLC Series 5 carriers have a more complex channel numbering scheme that is documented in the Introduction part of this Section. (Only DACS II supports SLC 96 or SLC 5.) The user should also note that channel 24 in a T1 provisioned with T1DM framing cannot be used because it is reserved for framing.

Note on the maximum number of 3-leg conferences a DSPP circuit pack can support

For the DSPP circuit pack that is plugged into a CEPT FTM on a DACS II, it may support up to 21 3-leg conferences.

For the DSPP circuit pack that is plugged into a T1 FTM on a DACS II, it may support up to 16 3-leg conferences.

For the DSPP circuit pack that is plugged into a NPM on a DACS II ISX, it may support up to 21 3-leg conferences.

Command

[I.93501]
DSPC:[FRM xy,SEQ ww]:{<p_npc>|<p_npc>-<q_npc>|SD311}:UTL::QRY,CMAP!

Completion Message

1.544 Mbit/s Termination Completion

The following message will be output for each DSPP NPC plugged into a T1 FTM on a DACS II.

[O.93501]
```
M hh:mm:ss xy,ww n[vv] DSPC <z_npc> UTL QRY CMAP <z_npc> \
SD311 001-016  2 LN MSG:
ll ll ll ll ll ll ll ll ll ll ll ll ll ll ll ll COMPL
```

The following message will be output for each DSPP NPC plugged into a NPM on a DACS II ISX.

[O.93501]
```
M hh:mm:ss xy,ww n[vv] DSPC <z_npc> UTL QRY CMAP <z_npc> \
SD311 001-021  2 LN MSG:
ll ll ll ll ll ll ll ll ll ll ll ll ll ll ll ll ll ll ll ll ll COMPL
```

2.048 Mbit/s Termination Completion

The following message will be output for each DSPP NPC that is plugged into a CEPT FTM on a DACS II or plugged into a NPM on a DACS II ISX.

[O.93501]
```
M hh:mm:ss xy,ww n[vv] DSPC <z_npc> UTL QRY CMAP <z_npc> \
SD311 001-021  2 LN MSG:
ll ll ll ll ll ll ll ll ll ll ll ll ll ll ll ll ll ll ll ll COMPL
```

Denial Message

[O.93501.01]
```
M hh:mm:ss xy,ww n[vv] DSPC <z_npc> UTL QRY CMAP 2 LN MSG:
<explanation of error> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

UTL::QRY,CMAP
- Query for number of legs each DMB has on a DSPP NPC

SD311 - DSPP NPC type

The digital multipoint bridge (DMB) application runs on the DSPP NPC.

<p_npc> - Number of facility terminating NPC, the first number of a range

<q_npc> - Number of facility terminating NPC, the last number of a range

<z_npc> - Number of facility terminating NPC, between <p_npc> and <q_npc>

ll - Number of legs for the multipoint termination (0 through 64)

Explanation of Error

```
THE COMMAND ENTERED IS ILLEGAL
INITIALIZATION OF APPLICATION IS IN PROGRESS, RETRY
      COMMAND LATER
DIGITAL MULTIPOINT BRIDGE (DMB) APPLICATION FAILED
```

DSPC,UTL,QRY,FREE,SD311

QUERY THE CAPACITY AVAILABLE FOR NEW ADDED CHANNELS AND/OR BRIDGES

Explanation Of Command

This command requests a printout of the maximum number of legs which can be added to a DSP Application circuit pack running the DMB application.

NOTE:
The calculations are based on the default conditions of echo suppression (ES) and noise guard (NG) and no terminated state on the existing legs.

Note on NPC Numbering

There exist two numbering schemes for NPC numbers in DACS II. NPCs can be numbered either sequentially or hierarchically. Also note that on DACS II, sequential NPC numbers may be stated in 3-digit or 4-digit form. The NPC numbering scheme for DACS II is explained in detail in the Introduction part of this Section. The messages below refer to NPC numbers, but do not show any details on NPC numbering. As just stated, the reader is referred to the beginning of this section for this information. On DACS II ISX, only sequential NPC numbers in 3-digit form are used.

NOTE:
In PDS, when NPC number and channel number are specified together, the NPC number must be of fixed length; that is, for a three digit NPC number the NPC number must always be specified as a three digit number with leading zeros if necessary, and a four digit NPC number must always be specified as a four digit number with leading zeros if necessary.

Note on Channel and Conference Numbering

Channels in NPCs that terminate T1 facilities are numbered from 001 through 024. Channels in NPCs that terminate E1 facilities are numbered from 001 through 030. Conferences in DMB Application circuit packs are numbered from 001 through 021. Channels in SLC 96 or SLC Series 5 carriers have a more complex channel numbering scheme that is documented in the Introduction part of this Section. (Only DACS II supports SLC 96 or SLC 5.) The user should also note that channel 24 in a T1 provisioned with T1DM framing cannot be used because it is reserved for framing.

Note on the maximum number of 3-leg conferences a DSPP circuit pack can support

For the DSPP circuit pack that is plugged into a CEPT FTM on a DACS II, it may support up to 21 3-leg conferences.

For the DSPP circuit pack that is plugged into a T1 FTM on a DACS II, it may support up to 16 3-leg conferences.

For the DSPP circuit pack that is plugged into a NPM on a DACS II ISX, it may support up to 21 3-leg conferences.

Command

[I.93531]
DSPC:[FRM xy,SEQ ww]:{<p_npc>|<p_npc>-<q_npc>|SD311}:UTL::QRY,FREE!

Completion Message

[O.93531]
```
M hh:mm:ss xy,ww n[vv] DSPC <z_npc> UTL QRY FREE <z_npc> SD311\
 2 LN MSG:
rr ss pp qq COMPL
```

Denial Message

[O.93531.01]
```
M hh:mm:ss xy,ww n[vv] DSPC <z_npc> UTL QRY FREE 2 LN MSG:
<explanation of error> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

UTL::QRY,FREE
- Query for number of legs and conferences that can be added to a DSPP NPC

SD311 - DSPP NPC type

The digital multipoint bridge (DMB) application runs on the DSPP NPC.

<p_npc> - Number of facility terminating NPC, the first number of a range

<q_npc> - Number of facility terminating NPC, the last number of a range

<z_npc> - Number of facility terminating NPC, between <p_npc> and <q_npc>

rr - The maximum number of legs left that may be added to the existing symmetrical voice bridges (0 through 50)

ss - The maximum number of legs left that may be added to a new symmetrical voice bridge (0 through 50)

pp - The maximum number of legs left that may be added to the existing polling data bridges (0 through 64)

qq - The maximum number of legs left that may be added to a new polling data bridge (0 through 64)

Explanation of Error

```
THE COMMAND ENTERED IS ILLEGAL
INITIALIZATION OF APPLICATION IS IN PROGRESS, RETRY
      COMMAND LATER
DIGITAL MULTIPOINT BRIDGE (DMB) APPLICATION FAILED
```

DSPC,UTL,QRY,TO

QUERY DESTINATION CROSS-CONNECT

Explanation Of Command

This command requests circuit provisioning information associated with the specified conference or a specified channel which could be a leg or one of the two channels of a Test Port.

Note on NPC Numbering

There exist two numbering schemes for NPC numbers in DACS II. NPCs can be numbered either sequentially or hierarchically. Also note that on DACS II, sequential NPC numbers may be stated in 3-digit or 4-digit form. The NPC numbering scheme for DACS II is explained in detail in the Introduction part of this Section. The messages below refer to NPC numbers, but do not show any details on NPC numbering. As just stated, the reader is referred to the beginning of this section for this information. On DACS II ISX, only sequential NPC numbers in 3-digit form are used.

NOTE:
In PDS, when NPC number and channel number are specified together, the NPC number must be of fixed length; that is, for a three digit NPC number the NPC number must always be specified as a three digit number with leading zeros if necessary, and a four digit NPC number must always be specified as a four digit number with leading zeros if necessary.

Note on Channel and Conference Numbering

Channels in NPCs that terminate T1 facilities are numbered from 001 through 024. Channels in NPCs that terminate E1 facilities are numbered from 001 through 030. Conferences in DMB Application circuit packs are numbered from 001 through 021. Channels in SLC 96 or SLC Series 5 carriers have a more complex channel numbering scheme that is documented in the Introduction part of this Section. (Only DACS II supports SLC 96 or SLC 5.) The user should also note that channel 24 in a T1 provisioned with T1DM framing cannot be used because it is reserved for framing.

Command

[I.93511]
DSPC:[FRM xy,SEQ ww]:<p_npc>:UTL::QRY,TO <q_npc>jjj!

Completion Message

The following message segment will be output for the specified DMB that has no legs connected or for the specified channel that is not connected to the addressed DSP Application NPC.

[O.93511]
```
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> UTL QRY TO <q_npc>jjj \
TYPE mnxyz  2 LN MSG:
UASGN COMPL
```

The following message segment will be output for the specified DMB that has leg(s) connected or for the specified channel that is connected to the addressed DSP Application NPC.

[O.93512]
```
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> UTL QRY TO <q_npc>jjj \
TYPE mnxyz  e LN MSG:
[<data_line>]
[<data_line>]
[<data_line>]
<data_line> {EOM|COMPL}
            .
            .
            .
[M hh:mm:ss xy,ww n[vv] DSPC <p_npc> UTL QRY TO <q_npc>jjj \
TYPE mnxyz  e LN MSG:
[<data_line>]
[<data_line>]
[<data_line>]
<data_line> COMPL]
```

If the specified <q_npc>jjj is a leg or a conference, then the format of <data_line> is:

```
<f_npc>ddd mnxyz fmd,tmd snn,smm nn ee <tc>
[CUS][ RDC][ UTST TP kk {MON|SPL}][ NTR r][ TLA s][ NAM]
```

If the specified <q_npc>jjj is one of two channels of a TP, then the format of <data_line> is:

```
TP kk {MON|SPL} <f_npc>ddd
[CUS ][RDC ][TLA s]
```

NOTE:
The <data_line> is output as either one or two lines. The second line is output only if any of its optional fields are present.

Denial Message

[O.93511.01]

```
M hh:mm:ss xy,ww n[vv] DSPC <p_npc> UTL QRY TO <q_npc>jjj\
[ TYPE mnxyz] 2 LN MSG:
<explanation of error> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

UTL::QRY,TO
- Query the circuit information for the specified DMB or channel

TO - To

<p_npc>
- Number of the addressed DSPP NPC that runs the DMB application

<q_npc>
- Number of the facility terminating NPC or the addressed DSPP NPC

jjj - Number of the multipoint bridge on the addressed DSPP NPC or Number of a facility terminating NPC channel that is connected to the addressed DSPP NPC

Conference number

1 - 21 for the DSPP NPC plugged in a DACS II ISX
1 - 21 for the DSPP NPC plugged in a CEPT FTM on a DACS II
1 - 16 for the DSPP NPC plugged in a T1 FTM on a DACS II

UASGN - Unassigned

There is no leg connected to the specified multipoint bridge.

SD311 - NPC type for DMB application that runs on a DSPP circuit pack

<f_npc> - Number of facility terminating NPC

ddd - Channel number or pseudo channel number

Pseudo channel (1 - 999) will be output for the channel connected to a DMB on another DSPP NPC.

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:

tc

TRSP IW X'pq
TRSP TRB (T1 NPC only)

NOTE:
For CEPT to DMB connections, the <tc> may be specified by the USER if the NPC is provisioned for firmware control. Otherwise, the insertion word defaults to X'FF.

TRB - Trouble (T1 NPC only)

TRSP - Transparent

TYPE - Type

mnxyz - NPC type of a facility terminating NPC that has a channel connected to the specified DMB or the addressed DSPP NPC type which is SD311.

mn	Explanation
DA	FTU ANSI NPC type
DE	Enhanced digroup NPC
DS	SLC® terminating digroup NPC
TA	DS3U ANSI NPC type
TE	DS3U enhanced NPC
PA	Primary block NPC (120- or 75-Ohm)
PB	Primary block NPC (120-Ohm twisted pair)
PC	Primary block NPC (75-Ohm coaxial)
LS	LSIU NPC type
SD	DSP Application NPC type

NOTE:
DACS II ISX currently supports DA and PA type NPCs.

xyz - Multiframe, line and signaling, and channel numbering formats

e - Number of lines in the message segment

CUS - Customer

The circuit is a customer controlled circuit.
This optional keyword is not available in a DACS II ISX.

RDC - Red circuit

The circuit is a red circuit

UTST - The circuit is under test access

MON - Test access is in Monitor mode

SPL - Test access is in split mode

TLA - Terminate and leave active

s - Terminate and leave state

s	*state*
F	FROM terminated
T	TO terminated
B	BOTH terminated

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:

fmd/tmd	*Explanation*
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)

snn - Gain adjust parameters for the signal enters the DMB
smm - Gain adjust parameters for the signal leaves the DMB

s - Sign (+ or -)
nn - Gain adjust value (-90 through +88)
mm - 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.

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 channel of the specified DMB

Valid values are listed below:

nn

0 db
6 db
12 db
18 db

ee - Echo suppression setting (in dB) for the channel of the specified DMB

Valid values are listed below:

ee

0 db
6 db
12 db
18 db

NTR - No transmit

r - Direction which has no transmission

r	*Explanation*
F	FROM
T	TO

NAM - No A to Mu law conversion

In the case where the NAM keyword is output, the A law to Mu law and Mu law to A law code translators on the E1 type NPCs are disabled. And the DMB does the A law <-> linear conversion for the legs specified instead of the Mu law <-> linear conversion.

Presence of the NAM keyword in the output reports the conversion mode of the circuit, not necessarily the input keyword used to create it.

TP - Test Port

kk - Test Port number valid between 1 and 96

Explanation of Error

```
INVALID DSPP NPC AND CONFERENCE NUMBER
NPC <t_npc>/<f_npc> IS NOT VALID
THE COMMAND ENTERED IS ILLEGAL
CHANNEL ddd/jjj IS OUT OF RANGE FOR NPC TYPE SPECIFIED
CONFERENCE ddd/jjj IS OUT OF RANGE FOR DSPP NPC
      SPECIFIED
INITIALIZATION OF APPLICATION IS IN PROGRESS, RETRY
      COMMAND LATER
CHANNEL IS BEING ROLLED
DIGITAL MULTIPOINT BRIDGE (DMB) APPLICATION FAILED
```

DSPC,UTL,QRY,TPS,SD311

QUERY STATUS OF TEST ACCESS CHANNELS

Explanation Of Command

This command requests a printout of the status of all test ports connected to a DSP Application circuit pack running the DMB application.

For the DACS II the maximum number of test port that can be connected to a DSP Application circuit pack is 16 for T1 NPCs and 21 for CEPT NPCs.

For DACS II ISX, the maximum number of the test port that can be connected to a DSP Application circuit pack is 21 for both T1 and CEPT NPCs.

Note on NPC Numbering

There exist two numbering schemes for NPC numbers in DACS II. NPCs can be numbered either sequentially or hierarchically. Also note that on DACS II, sequential NPC numbers may be stated in 3-digit or 4-digit form. The NPC numbering scheme for DACS II is explained in detail in the Introduction part of this Section. The messages below refer to NPC numbers, but do not show any details on NPC numbering. As just stated, the reader is referred to the beginning of this section for this information. On DACS II ISX, only sequential NPC numbers in 3-digit form are used.

NOTE:
In PDS, when NPC number and channel number are specified together, the NPC number must be of fixed length; that is, for a three digit NPC number the NPC number must always be specified as a three digit number with leading zeros if necessary, and a four digit NPC number must always be specified as a four digit number with leading zeros if necessary.

Command

[I.93521]
DSPC:[FRM xy,SEQ ww]:{<p_npc>|<p_npc>-<q_npc>|SD311}:UTL::QRY,TPS!

Completion Message

1.544 Mbit/s Termination Completion

The following message will be output for each DSP Application NPC that is plugged into a T1 FTM on a DACS II.

[O.93521]

```
M hh:mm:ss xy,ww n[vv] DSPC <z_npc> UTL QRY TPS <z_npc> SD311\
  2 LN MSG:
[0]000 COMPL
```

[O.93522]

```
M hh:mm:ss xy,ww n[vv] DSPC <z_npc> UTL QRY TPS <z_npc> SD311\
  e LN MSG:
kk <mode>[ kk <mode> kk <mode> kk <mode>
kk <mode> kk <mode> kk <mode> kk <mode>
kk <mode> kk <mode> kk <mode> kk <mode>
kk <mode> kk <mode> kk <mode> kk <mode>] COMPL
```

The following message will be output for each DSP Application NPC that is plugged into a NPM on a DACS II ISX.

[O.93521]

```
M hh:mm:ss xy,ww n[vv] DSPC <z_npc> UTL QRY TPS <z_npc> SD311\
  2 LN MSG:
[0]000 COMPL
```

[O.93522]

```
M hh:mm:ss xy,ww n[vv] DSPC <z_npc> UTL QRY TPS <z_npc> SD311\
  e LN MSG:
kk <mode>[ kk <mode> kk <mode> kk <mode>
kk <mode> kk <mode> kk <mode> kk <mode>
kk <mode> kk <mode> kk <mode> kk <mode>
kk <mode> kk <mode> kk <mode> kk <mode>
kk <mode> kk <mode> kk <mode> kk <mode>
kk <mode>] COMPL
```

2.048 Mbit/s Termination Completion

The following message will be output for each DSP Application NPC that is plugged into a CEPT FTM on a DACS II or plugged into a NPM on a DACS II ISX.

[O.93521]

```
M hh:mm:ss xy,ww n[vv] DSPC <z_npc> UTL QRY TPS <z_npc> SD311\
  2 LN MSG:
[0]000 COMPL
```

[O.93522]

```
M hh:mm:ss xy,ww n[vv] DSPC <z_npc> UTL QRY TPS <z_npc> SD311\
  e LN MSG:
kk <mode>[ kk <mode> kk <mode> kk <mode>
kk <mode> kk <mode> kk <mode> kk <mode>
kk <mode> kk <mode> kk <mode> kk <mode>
kk <mode> kk <mode> kk <mode> kk <mode>
kk <mode> kk <mode> kk <mode> kk <mode>
kk <mode>] COMPL
```

Denial Message

[O.93521.01]

```
M hh:mm:ss xy,ww n[vv] DSPC <z_npc> UTL QRY TPS <z_npc> SD311\
  2 LN MSG:
<explanation of error>  DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

UTL::QRY,TPS

- Query the status for all test access channels on a DSPP NPC

SD311 - DSPP NPC type

The digital multipoint bridge (DMB) application runs on the DSPP NPC.

<p_npc> - Number of DSPP NPC, the first number of a range

<q_npc> - Number of DSPP NPC, the last number of a range

<z_npc> - Number of DSPP NPC, between <p_npc> and <q_npc>

kk - Test Port number valid between 1 and 96

e - Number of lines in message (2 through 7)

<mode>
- Mode of each test access channel pair

mode	*Definition*
MON	Monitor
SPL	Split
LPD	Looped

Explanation of Error

THE COMMAND ENTERED IS ILLEGAL
INITIALIZATION OF APPLICATION IS IN PROGRESS, RETRY COMMAND LATER
DIGITAL MULTIPOINT BRIDGE (DMB) APPLICATION FAILED

Command Denials

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Command Denials

7

Denial Messages

The DMB application displays a denial message when the DACS II or DACS II ISX parser has difficulty interpreting an issued command.

This chapter contains a listing of denial messages displayed by the DMB application, along with an explanation of their possible meanings. For additional information on denial messages, refer to Chapter 6.

Application Generated Error Messages

CANNOT PERFORM DMB CHG BECAUSE NTR FLAG SET ON FROM SIDE
CANNOT PERFORM DMB CHG BECAUSE NTR FLAG SET ON TO SIDE
CANNOT PERFORM DMB CHG ON INPUT DIRECTION F
CANNOT PERFORM DMB CHG ON INPUT DIRECTION T
CHANNEL <f_npc>ddd/<t_npc>jjj IS NOT ASSIGNED
CHANNEL IS BEING ROLLED
CHANNEL ddd/jjj IS ASSIGNED
CHANNEL ddd/jjj IS OUT OF RANGE FOR NPC TYPE SPECIFIED
CHANNEL ddd/jjj IS UNDER TEST
CONFERENCE ddd/jjj IS OUT OF RANGE FOR DSPP NPC SPECIFIED
CONNECTION EXCEEDS REMAINING CAPACITY
CUS FLAG DOESN'T MATCH THAT OF CONFERENCE
DIGITAL MULTIPOINT BRIDGE (DMB) APPLICATION FAILED
ILLEGAL BBL BBL COMBINATION
ILLEGAL BBL SYM COMBINATION
ILLEGAL BRD BRD COMBINATION

ILLEGAL BRD SYM COMBINATION
ILLEGAL LEG LEG COMBINATION
ILLEGAL SYM BBL COMBINATION
ILLEGAL SYM BRD COMBINATION
INITIALIZATION OF APPLICATION IS IN PROGRESS, RETRY
COMMAND LATER
INPUT BRD (BBL) HAS SAME NPC AND CHANNEL AS BBL (BRD)
INVALID CHANNEL NUMBER FOR LOWER TEST PORT
INVALID DSPP NPC AND CONFERENCE NUMBER
INVALID ECHO SUPPRESSION PARAMETER
INVALID FROM CHANNEL/CONFERENCE NUMBER
INVALID NOISE GUARD PARAMETER
INVALID NPC TYPE FOR TEST PORT
INVALID TO CHANNEL/CONFERENCE NUMBER
INVALID TRANSMISSION LEVEL POINT PARAMETER
NO CUS CIRCUITS AND INCL KEYWORD USED
NO INCL, CANNOT OVERRIDE THE STATE OF THE CONF
NPC <f_npc>/<t_npc> IS FAILED
NPC <t_npc>/<f_npc> IS NOT EQUIPPED
NPC <t_npc>/<f_npc> IS NOT VALID
NPC <t_npc>/<f_npc> IS OUT-OF-SERVICE
NPC CHANNEL IS A TEST PORT
OOS KEYWORD INCLUDED AND NPC IS NOT OUT-OF-SERVICE
RDC FLAG DOESN'T MATCH THAT OF CONFERENCE
RDLD FLAG DOESN'T MATCH THAT OF CONFERENCE
REQUESTED ACTION EXCEEDS REMAINING CAPACITY
SPECIFIED ACCESS POINT IS ALREADY UNDER TEST
SPECIFIED TEST ACCESS POINT <f_npc>ddd IS ALREADY IN
TLA MODE
SPECIFIED TEST ACCESS POINT <f_npc>ddd IS ALREADY IN
TLR MODE
SPECIFIED TEST PORT IS ALREADY IN MONITOR MODE
SPECIFIED TEST PORT IS ALREADY IN SPLIT MODE
SPECIFIED TEST PORT IS NOT ASSIGNED
TERMINATION CONNECTION IS NOT ALLOWED FOR LEGS BETWEEN
BRIDGES
TEST PORT <kk> APPEARS NOT TO BE CONNECTED TO
APPLICATION
TEST PORT <kk> IS FAILED
TEST PORT IS LOOPED
TEST PORT kk IS NOT IDLE
THE COMMAND ENTERED IS ILLEGAL
THE SPECIFIED TEST PORT <kk> IS NOT EQUIPPED
THE SPECIFIED TEST PORT IS ALREADY ASSIGNED
THE TEST PORT <kk> IS OUT-OF-SERVICE
THE TO SIDE NPC IS NOT EQUIPPED
THE TYPE OF THE NPC SPECIFIED IS ILLEGAL
TO SIDE NPC <f_npc> IS FAILED
TO SIDE NPC <f_npc> IS OUT-OF-SERVICE

TRUNK CONDITIONING IS INVALID
TRUNK CONDITIONING IS NOT PROVIDED
TRYING TO ADD A BBL LEG TO A DMB SET UP AS SYM
TRYING TO ADD A BBL TO A DMB THAT ALREADY HAS ONE
TRYING TO ADD A BROADCAST LEG TO A DMB SET UP AS SYM
TRYING TO ADD A SYM LEG TO A DMB SET UP AS BROADCAST
TRYING TO CHANGE LEVEL IN ON BBL LEG
TRYING TO CHANGE LEVEL IN ON BRD LEG
TRYING TO CHANGE LEVEL OUT ON BBL LEG
TRYING TO CHANGE LEVEL OUT ON BRD LEG
TRYING TO DISCONNECT A LEG UNDER TEST ACCESS
TRYING TO DISCONNECT A NONEXISTING LEG

Possible error messages generated by application when running on DACS II

A loopback is active on the FROM termination
A loopback is active on the TO termination
AIS invalid for cross-connection specified
Active CCN side not IS or failed or pested or hardware OOS
CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
Cross-connect a non Mode I channel to DCLU
Cross-connect a non SLC channel to DCLU
DSPP not in service, or failed
ETSI not equipped, not in service, or failed
FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
FMC cannot be cross-connected in this format
FROM NPC is not provisioned as DGA
FTMI not equipped, not in service, or failed
Invalid FROM NPC type for AIS insertion
Invalid FROM channel number
Invalid FROM channel number range
Invalid TO NPC type for AIS insertion
Invalid TO channel number
Invalid TO channel number range
Invalid channel 000 cross-connection specified
Invalid channel 031 cross-connection specified
Invalid keyword(s) combination specified
Invalid parameter combination
Invalid range for specified FROM NPC type
Invalid range for specified TO NPC type
Line format types are incompatible
MUX or TRB invalid for cross-connection specified
NAM invalid for cross-connection specified
No NPC’s out of service and OOS keyword used
RT-DCLU cross-connect with different channel number

RT-DCLU cross-connect with different ids
Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS
Required FLI not equipped, not in service, or failed
Required MIU not equipped, not in service, or failed
Required MXR not equipped, not in service, or failed
SC invalid for cross-connection specified
TO NPC is not provisioned as DGA
TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
Termination is in process of being rolled
The parameter specified does not match with the NPC type
Trunk conditioning is invalid
Trunk type is not allowed in the circuit specified
UNIT not equipped, not in service, or failed
Unmatched channel range
Unmatched channel range involving SLC Mode III termination
Using the 24th channel of a T1DM NPC

Possible status messages generated by application when running on DACS II

Status message	*Explanation*
ASGN	Test port is assigned
BAD PSEUDO CHANNEL RANGE	DSPC pseudo channel out of range
BAD PSEUDO CHANNEL RANGE	DSPC pseudo channel out of range
BADCCB	CCB OOS or failed
BADCCN	CCN OOS or failed
BADCHAN	Bad channel number was specified
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
BADNPC	Bad NPC number
BADTSI	TSI OOS or failed
FAIL	Test port Group NPC failed
INERR	Input error
MCOND	An entity in the network is OOS or failed
NA	DACS CCN or UNIT involved cannot perform the cross-connect
NMON	Not Monitor, the testport is not currently in monitor mode
NUTST	Test port kk is presently idle
OOS	Test port Group NPC out of service
SG COND 02	Test port is dynamic
T_DCLU	Attempt to test a locally switched channel
UEQD	Test port kk is unequipped
UEQD	The test port Group NPC or the test port is not equipped
UTST	Under Test
{F|T|B} ASGN	Termination assigned
{F|T|B} CUS	Customer-controlled Circuit
{F|T|B} FAIL	Failed

{F|T|B} INVLD	Invalid NPC type
{F|T|B} NOMTH	No Match
{F|T|B} OOS	Out-of-service
{F|T|B} RDC	Red Circuit
{F|T|B} RDLD	Red Lined
{F|T|B} ROLL	Circuit is involved in a roll
{F|T|B} TG	NPC is grown as a test group
{F|T|B} TP	NPC is used for test access
{F|T|B} UASGN	unassign
{F|T|B} UEQD	Unequipped
{F|T|B} UNPASGN	Unassigned or Not Properly Assigned
{F|T|B} UTST	Under Test

Possible error messages generated by application when running on ISX

AIS invalid for cross-connection specified
Active SXC side not IS or failed or pested or hardware OOS
Can’t connect within the same SDTYPE npc
FMC cannot be cross-connected in this format
Invalid FROM NPC type for AIS insertion
Invalid FROM channel number
Invalid TO NPC type for AIS insertion
Invalid TO channel number
Invalid channel 000 cross-connection specified
Invalid channel 031 cross-connection specified
Invalid keyword(s) combination specified
Invalid parameter combination
Invalid range for specified FROM NPC type
Invalid range for specified NPC type
Invalid range for specified TO NPC type
MUX or TRB invalid for cross-connection specified

NAM invalid for cross-connection specified
NPC containing channel 000 is invalid type
No NPC's out of service and OOS keyword used
No RDLD circuits and INCL keyword used
SC invalid for cross-connection specified
The parameter specified does not match with the NPC type
Trunk conditioning is invalid
Trunk conditioning must match for range disconnect with DCC keyword
Unmatched channel range
Using the 24th channel of a T1DM NPC

Possible status messages generated by application when running on ISX

Status message	*Explanation*
ASGN	Test port is assigned
BAD CHAN	Bad channel number was specified
BAD PSEUDO CHANNEL RANGE	DSPC pseudo channel out of range
BADCCN	CCN OOS or failed
INERR	Input error
MCOND	An entity in the network is OOS or failed
NA	DACS CCN cannot perform the cross-connect
NMON	Not Monitor, the testport is not currently in monitor mode
NUTST	Test port kk is presently idle
SG COND 02	Test port is static

T_DCLU	Attempt to test a locally switched channel
UEQD	Test port kk is unequipped
UEQD	The test port is not equipped
UTST	Under Test
{F|T|B} ASGN	Termination assigned
{F|T|B} FAIL	Failed
{F|T|B} INVLD	Invalid NPC type
{F|T|B} INVNFS	Invalid, Not Frame Word Setting
{F|T|B} NOMTH	No Match
{F|T|B} OOS	Out-of-service
{F|T|B} RDC	Red Circuit
{F|T|B} RDLD	Red Lined
{F|T|B} TP	NPC is used for test access
{F|T|B} UASGN	unassign
{F|T|B} UEQD	Unequipped
{F|T|B} UNPASGN	Unassigned or Not Properly Assigned
{F|T|B} UTST	Under Test

Quick Reference Guide

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Quick Reference Guide

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Numeric List of Keywords

93000 **INTRODUCTION**
93011 **DSPC,TTST,MON,TO,TP**
93021 **DSPC,TTST,SPL,MON,TP**
93031 **DSPC,TTST,TLA,TLR,F,T,B,TP**
93041 **DSPC,TTST,TPR,TP**
93051 **DSPC,TTST,TPR,ALL,LINKS,TP**
93101 **DSPC,TCNT,FROM,TO,MPM,NAM,NTR,RDC,CUS**
93111 **DSPC,TCON,FROM,TO,MPM,NAM,NTR,RDC,CUS**
93201 **DSPC,TDIS,FROM,TO,INCL,OOS,DCC**
93301 **DSPC,CHG,FROM,TO,TLP,NG,ES,INCL**
93311 **DSPC,CHG,FROM,TO,TLA,TLR,F,T,B,L,G,A**
93501 **DSPC,UTL,QRY,CMAP,SD311**
93511 **DSPC,UTL,QRY,TO**
93521 **DSPC,UTL,QRY,TPS,SD311**
93531 **DSPC,UTL,QRY,FREE,SD311**
93601 **DSPC,BADVERB,CMD**

Alphabetic Command Summary

[I.93311]
DSPC:[FRM xy,SEQ ww]:<p_npc>:CHG::FROM <f_npc>ddd,TO <t_npc>jjj
,{TLA|TLR} {F|T|B|L|G|A}[,INCL]!

[I.93301]
DSPC:[FRM xy,SEQ ww]:<p_npc>:CHG::FROM <f_npc>ddd,TO <t_npc>jjj
[,TLP([sn]n,[sm]m)][,NG [n]n][,ES [e]e][,INCL]!

[I.93101]
DSPC:[FRM xy,SEQ ww]:<p_npc>:TCNT::FROM <f_npc>ddd,TO <t_npc>jjj,
MPM(fmd,tmd)[,<tc>][,NAM][,NTR m][,RDC][,{CUS|INCL}]!

[I.93111]
DSPC:[FRM xy,SEQ ww]:<p_npc>:TCON::FROM <f_npc>ddd,TO <t_npc>jjj,
MPM(fmd,tmd)[,<tc>][,NAM][,NTR m][,RDC][,{CUS|INCL}]!

[I.93201]
DSPC:[FRM xy,SEQ ww]:<p_npc>:TDIS::FROM <f_npc>ddd,TO <t_npc>jjj
[,INCL][,OOS][,DCC]!

[I.93011]
DSPC:[FRM xy,SEQ ww]:<p_npc>:TTST::MON,TO <f_npc>ddd,TP kk!

[I.93021]
DSPC:[FRM xy,SEQ ww]:<p_npc>:TTST::{SPL|MON},TP kk!

[I.93031]
DSPC:[FRM xy,SEQ ww]:<p_npc>:TTST::{TLA|TLR} {F|T|B},TP kk!

[I.93051]
DSPC:[FRM xy,SEQ ww]:<p_npc>:TTST::TPR,{ALL|LINKS}!

[I.93041]
DSPC:[FRM xy,SEQ ww]:<p_npc>:TTST::TPR,TP kk[,OOS]!

[I.93501]
DSPC:[FRM xy,SEQ ww]:{<p_npc>|<p_npc>-<q_npc>|SD311}:UTL::QRY,CMAP!

[I.93531]
DSPC:[FRM xy,SEQ ww]:{<p_npc>|<p_npc>-<q_npc>|SD311}:UTL::QRY,FREE!

[I.93511]
DSPC:[FRM xy,SEQ ww]:<p_npc>:UTL::QRY,TO <q_npc>jjj!

[I.93521]
DSPC:[FRM xy,SEQ ww]:{<p_npc>|<p_npc>-<q_npc>|SD311}:UTL::QRY,TPS!

Glossary

B

Back Bone Leg
Master leg of a polling data bridge circuit.

BBL
Backbone leg - Master leg of a polling data bridge circuit. (See also Master Leg)

BRD
Non-backbone leg (tributary)

C

Channel
A 64 kbit/s portion of a T1 or E1 transmission line.

Cross-connection
A data transmission path set up between two NPCs.

CUS
Customer-controlled circuit.

D

DACS II
Digital Access and Cross-connect System II.

DACS II ISX
Digital Access and Cross-connect System II - Integral Shelf Cross-connect.

Digroup
A circuit pack containing two Network Processing Circuits.

DMB
Digital Multipoint Bridge.

DS0
Digital Signal Level Zero — a signal with a data rate of 64 kbit/s.

DS1
Digital Signal Level One — a signal with a data rate of 1544 kbit/s, equivalent to a T1 signal.

DSP
Digital Signal Processing — a platform used for digital signal manipulation.

E

E1 European Digital Signal Level 1 — a 30 channel transmission line used throughout the world, which transmits at the 2048 kbit/s rate. An E1 signal is also called a 2 Mbit/s signal.

ES Echo Suppression - used to increase the echo return loss on individual legs of a voice multipoint circuit when leg is listening.

F

Facility Terminating NPC
A Network Processing Circuit on the DACS II or DACS II ISX that terminates either T1 or E1 signals.

Framing Bit
When used for subrate data, it is the first bit in a byte of a DS0 channel. This bit allows multiple subrate circuits to be multiplexed into a single DS0 circuit (except for 56 kbit/s circuits).

G

GIW
Growth Insertion Word - sent to the facility terminating unit by the DSP circuit pack to alert the system that the DSP circuit pack NPC has been grown and the channels are idle.

Grow (a circuit pack)
To place a circuit pack on the DACS II ISX equipment list.

I

INCL
Inclusive. When this keyword is specified in the **TCON** or **CONN-CRS-T0** command, redline (RDC/RDLD) and customer-controlled circuits (CUS) can be disconnected.

IW
Insertion Word — a byte of data that is sent out on a transmission line to indicate either transmission problems or an idle circuit.

K

kbit/s
Kilobits per second.

L

Leg
A tributary of a multipoint bridge.

M

Master Leg
The leg of the polling data bridge circuit which transmits data downstream to the tributary legs.

Mbit/s or Mb/s
Megabits per second.

MC
Main Controller of the DACS II or DACS II ISX systems.

MEMA
The memory slot on the DACS II ISX which holds the primary memory storage card.

MEMB
The memory slot on the DACS II ISX which holds the secondary memory storage card.

MML
HuMan-to-Machine Language — one of two command languages used by the DACS II and DACS II ISX system.

Monitor (Test Access)
One of four test access states which allows both directions of data transmission to be observed without disturbing the data flow.

MPDIS
Multipoint Disconnection.

N

NPC
Network Processing Circuit.

NPM
Network Processing Module.

NPSM
Network Processing Sub-Module.

NS Noise Guard - used to reduce the gaussian noise from a particular leg in the conference.

NTR
No Transmit

P

PCMCIA
Personal Computer Memory Card International Association — memory cards used by the DACS II and DACS II ISX in the primary and secondary memory slots which contain the system's control and application information.

PDS
Program Documentation Standard — one of two command languages used by the DACS II and the DACS II ISX.

PMEM
The memory slot on the DACS II ISX which holds the primary memory storage card.

Provision
To place a circuit pack on the DACS II or DACS II ISX equipment list, bring the circuit pack into service, and set up cross-connections on a circuit pack.

R

RDC/RDLD
Red-lined circuit. High priority circuit.

Released (Test Access)
One of four test access states in which the test access connection (in either monitor or split mode) is removed.

Restore (a circuit pack)
To place a circuit pack in service.

S

SMEM
The memory slot on the DACS II which holds the secondary memory storage card.

Split (Test Access)
One of four test access states which creates complete two-way transmission between each side of the circuit under test and the two test access channels.

SYM
Symmetrical Voice bridge.

T

T1
Transmission Digital Signal Level 1 — a 24 channel transmission line used predominately in North America, which transmits at the rate of 1544 kbit/s.

T1DM Framing
T1 Data Multiplexer Framing — a framing method that uses a framing pattern in channel 24, in addition to D4 framing, in order to improve the time to capture framing.

Terminated (Test Access)
One of four test access states which reserves all of the resources for a cross-connection to be activated at a later time.

Test Access
Placing a circuit in test access allows the capability of observing the circuit's performance. (See also: Monitor, Split, Terminated, and Released.)

TG193B
The Digital Signal and Processing Platform circuit pack used to run the DMB application.

TLP
Transmission Level Point - used to provide gain adjustment to each conference leg, so that each leg's signal will be presented at the same amplitude.

TRB
Standard trouble signal

Tributary
A leg on a multipoint bridge.

TRSP
Transparent, no signaling

U

UTST
Under Test

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